SANTEC
VIDEO TECHNOLOGIES

www.santec-video.com

SANTEC Video Technologies

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Imprint

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This catalogue is valid as of 1st June 2011.

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SANTEC VIDEO TECHNOLOGIES

About SANTEC Video Technologies

For more than 20 years, SANTEC has been one of the leading brands for products, systems and solutions for video surveillance technology.

SANTEC Video Technologies provides the full range of CCTV cameras, digital video recorders, system components, network cameras, network servers and software as well as equipment and accessories for different applications and requirements.

Product management and quality control of SANTEC products take place in Germany. We are ISO 9001:2008 certified.

Product quality and reliability of the complete systems are most important to us. When purchasing SANTEC products, you are sure to always receive innovative and proven systems. SANTEC products are available through a network of authorised partners across Europe.

Long-time experience and high-quality technology products assure highest security for your business.

For more information, please visit our website at:
www.santec-video.com

Your SANTEC Team

Europe-wide coverage

SANTEC is represented in most European countries. The expertise of our well-trained sales team guarantees excellent support in your decision-making process on which products to buy for your applications. Our sales force is available in our offices or comes directly to your site to provide guidance and consulting to find the best solutions for your CCTV projects.

So no matter where you are in Europe –
SANTEC is there to support you!

Comprehensive SANTEC website www.santec-video.com

On the SANTEC website, you will quickly find the latest information on products and related product news as well as a live demo of some selected SANTEC products. Moreover, SANTEC company information along with a list of SANTEC distributor partners in Europe is available. There is a range of download options, e.g. brochures, data sheets and much more.

So don't wait and visit the SANTEC website now at:
www.santec-video.com

Product information – available any time

In the product section of the website, SANTEC products are grouped by category so that you will only need a few clicks to get the information you need – product descriptions, data sheets, high-resolution product pictures, user manuals and much more.

Product search

If you are not able to find a specific product in the list of products, you can search for it by entering the part number in the search field.

COMPANY | PRODUCT AREA | NEWS | SERVICES | PARTNER TOO
> Home > IP cameras > SANTEC IP cameras > SNC-3901MDN
Seach phrase
IP cameras
SANTEC IP cameras
SANTEC accessories ip cameras
SNC-3901MDN
SANTEC 1/3" 1.3 mega p
mech. IR cut filter, PoE

Live demo

Get a picture of the SANTEC products! On our website, you can have a virtual look at a building and learn about the products used to monitor it. You will also see live pictures and specific information on the shown application examples. So take a look at the live demo at:
www.santec-video.com – live demo

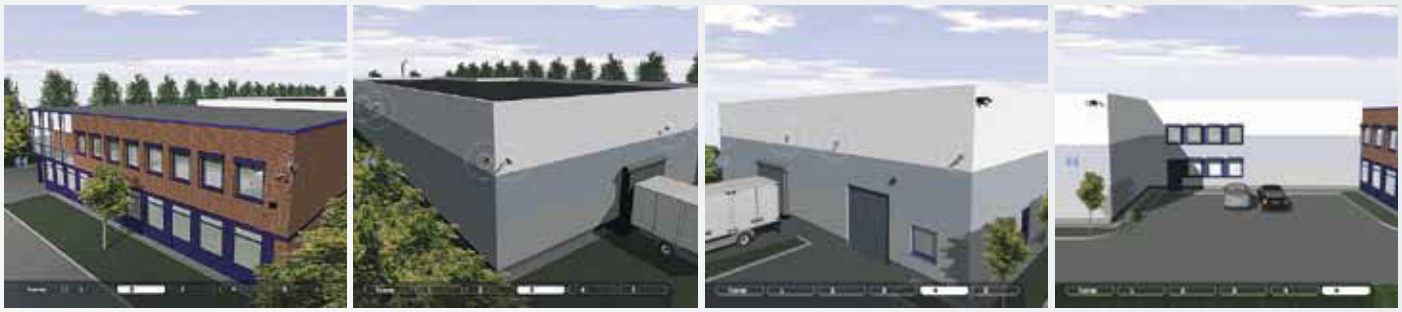
Please note: The live demo is currently only available in German, hence the below screenshots are in German.

Interactivity – Get in motion!

Move around the virtual building. Discover the diversity of digital video surveillance.

Application example

Every camera shown here illustrates an application example.



16) VDC-610ID/W
Sicherung des Eingangsbereiches
Der SANTEC Speed Dome VDC-610ID ist kompakt und zugleich gegen Vandalismus geschützt.
Mehr Info
Diese Seite gibt Ihnen Zugriff auf Informationen zu verschiedenen Anwendungssituationen - einfach die pulsierenden Kreise berühren. Auf den Detailseiten können Die noch mehr erfahren über Bildqualität, Live-Bilder und Datenblätter.
Ein weiterer Klick führt Sie in den Webshop auf unserer Internetseite. Mit den Buttons 1 – 5 können Sie sich rund um das Gebäude bewegen (alternativ funktioniert dies auch mit den Pfeilen am linken und rechten Bildschirmrand). Viel Spaß
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SANTEC

Product information

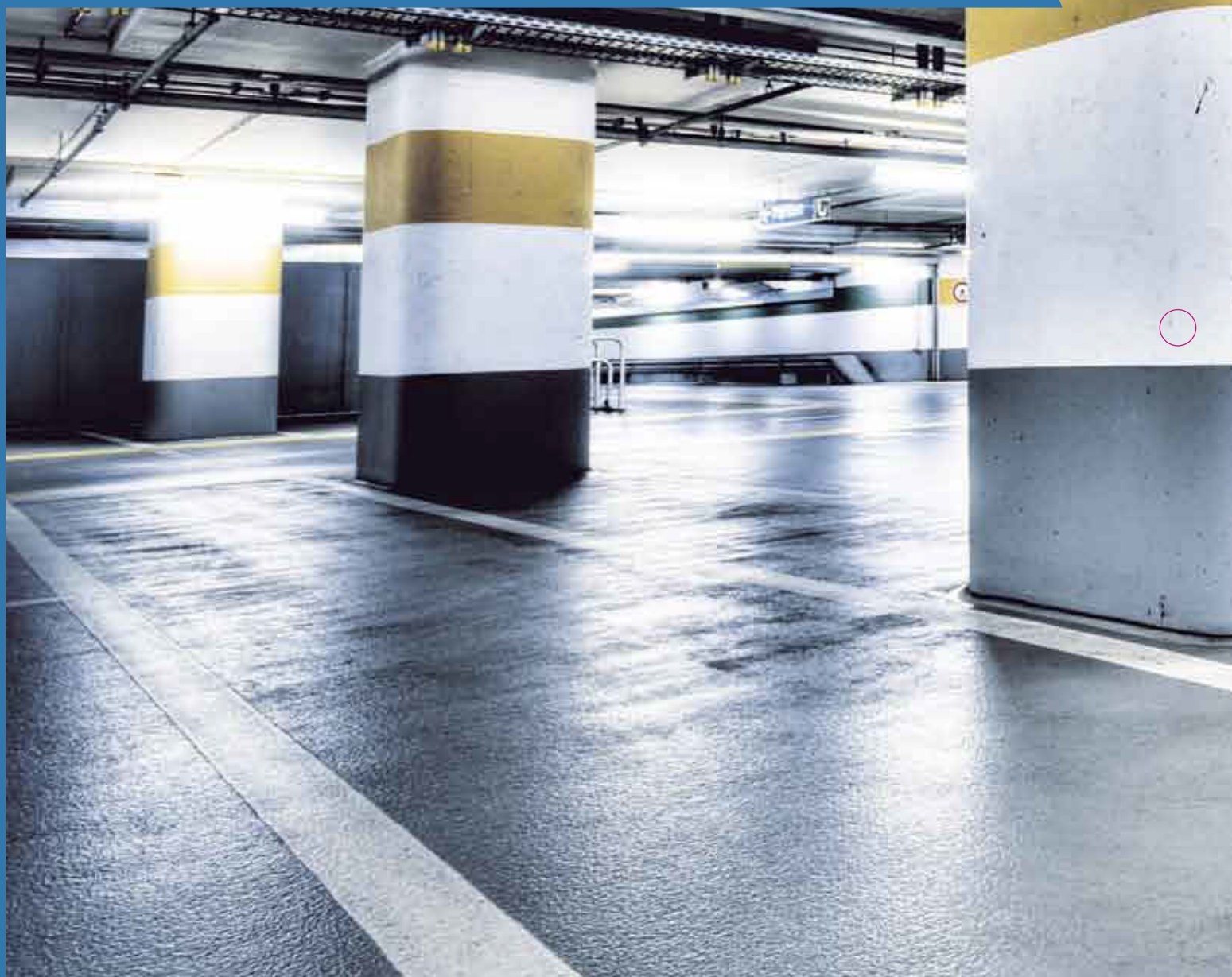
You will receive comprehensive information on every product shown here.

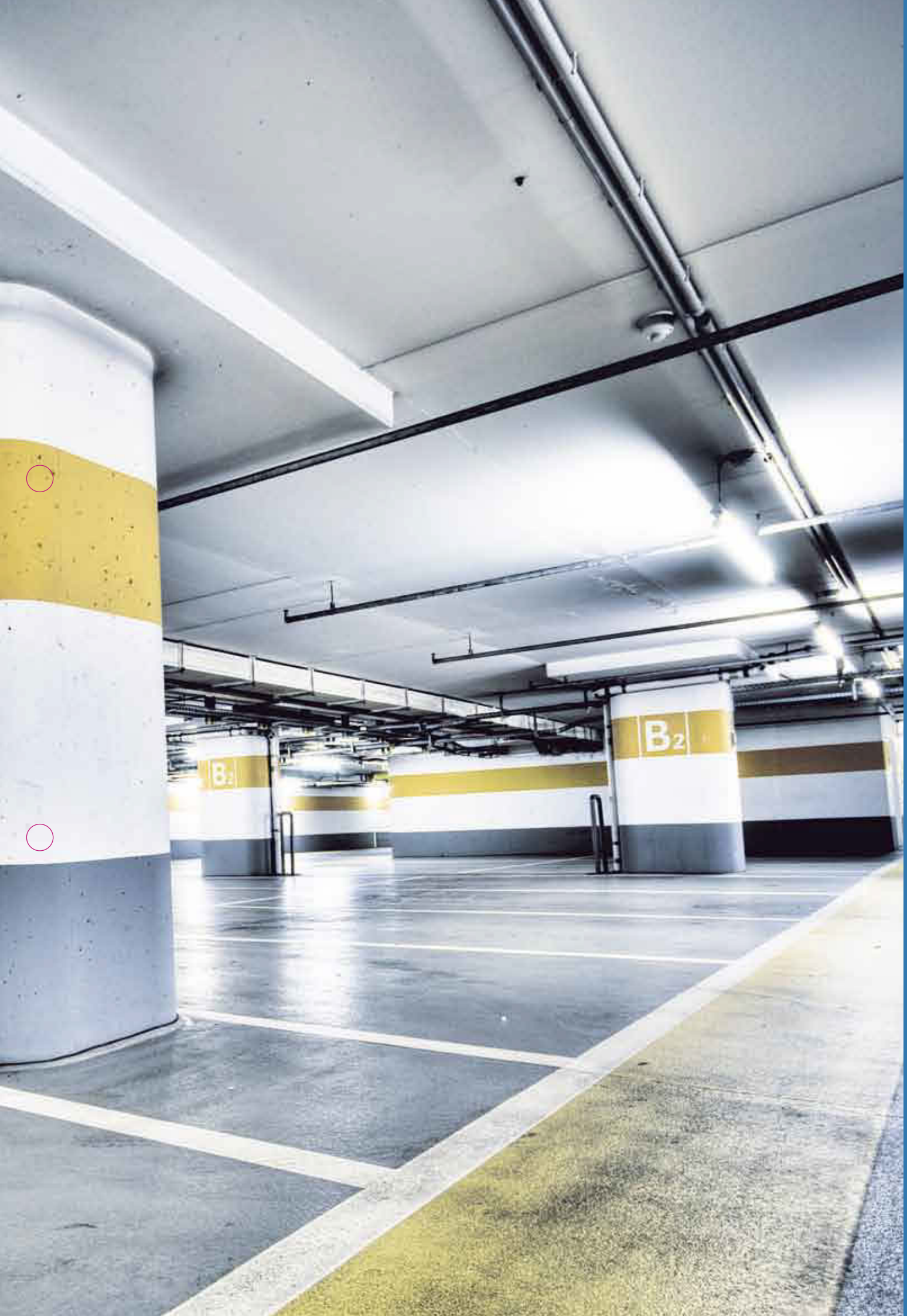
Live pictures

Product quality, live pictures or videos – see for yourself!

OUR CAMERAS DON'T SHOOT HOLLYWOOD MOVIES.

BUT SOMETIMES THE STORIES FOR THEM.




B2
B2

SANTEC IP box cameras

ONVIF

HD 720p ONVIF

Available as of 07/2011 HD 1080p ONVIF

Technical specifications

Part number	SNC-390DN/W	SNC-3901MDN	SNC-3903M
Type	IP Day/Night box camera	IP Day/Night box camera	IP Day/Night box camera
Sensor type	1/3" Sony Super HAD CCD Chip	1/3" 1.3 MP Sony Progressiv Scan CMOS	1/2.8" 3.1 MP Sony progressive scan CMOS
Picture resolution (pixel)	D1 (720 x 576)	1.3 MP (1280 x 1024)	3.1 MP (2048 x 1536)
Max. frame rate (fps)	25 at D1 (720 x 576)	25 at 1.3 MP (1280 x 1024)	25 at 2 MP / 20 at 3.1 MP
Compression (video)	MJPEG / MPEG-4	MJPEG / MPEG-4 / H.264	MJPEG / MPEG-4 / H.264
Number of video streams	2	3	3
Lens mount	C/CS	C/CS	C/CS
Iris control	DC	DC	DC
Lens type	manual zoom lens	manual zoom lens	manual zoom lens
Focal length	n.a.	n.a.	n.a.
IR cut filter	IR-Cut filter (mechanic)	IR-Cut filter (mechanic)	IR-Cut filter (mechanic)
Sensitivity	0.05 / 0.002 lux	1.0 / 0.3 lux	0.2 / 0.01 lux
Backlight compensation	BLC, HLC	WDR	WDR
Day/night mode adjustment	Auto / Color / b/w	Auto / Color / b/w	Auto / Color / b/w
Digital zoom	10x, adjustable	No	No
Privacy zones	8	No	No
Audio inputs	3.5 mm plug	3.5 mm plug	3.5 mm plug
Audio outputs	3.5 mm plug	3.5 mm plug	3.5 mm plug
Switch input contacts	1	1	1
Switch output contacts	1	1	1
Control interface	RS-485	RS-485	RS-485
Motion detection	Yes	Yes	Yes
Schedule	Yes	Yes	Yes
Picture upload	HTTP / FTP / SMTP	HTTP / FTP / SMTP	HTTP / FTP / SMTP
Internal memory	micro SDHC card (optional)	micro SDHC card (optional)	micro SDHC card (optional)
Ethernet connector	RJ-45	RJ-45	RJ-45
Ethernet standards	10Base-T / 100Base-TX	10Base-T / 100Base-TX	10Base-T / 100Base-TX
Power over Ethernet (PoE)	IEEE 802.3af, Midspan/Endspan	IEEE 802.3af, Midspan/Endspan	IEEE 802.3af, Midspan/Endspan
Classification	IP-44	IP-44	IP-44
Voltage	12 V DC	12 V DC	12 V DC
Power consumption (watt)	4.2	4.2	4.2
Operating temperature (°C)	–10 to +50	–10 to +50	–10 to +50
Dimensions W x H x D (mm)	65 x 65 x 120	65 x 65 x 120	65 x 65 x 120
Weight	370 g	370 g	450 g

Description

SANTEC IP box cameras are characterised by their quality and innovation. These day/night cameras are equipped with a mechanical IR cut filter and PoE (Power-over-Ethernet) power supply. All cameras come with the latest DSP and sensor technology. They can directly be browser-configured so that all camera adjustments can be made via a network.

The smallest model is camera SNC-390DN/W. It provides video streaming with 25 fps at D1 resolution with dual-stream function.

Cameras SNC-3901MDN and SNC-3903MDN are mega pixel cameras with 1.3 and 3.1 mega pixels respectively. The cameras produce outstandingly sharp pictures with up to 1280x1024 pixel (SNC-3901MDN) and 2048x1536 pixel (SNC-3903MDN). Both cameras provide real-time pictures (25 fps) and state-of-the-art H.264 codec which saves storage capacity resulting in a very long recording period.

These mega pixel cameras with day/night function include WDR (Wide Dynamic Range) and are hence suitable for continuous operations (24/7).

Notes

1. The lenses shown in the pictures above are not included in the delivery.
2. If you use 12 V DC, we recommend power supply unit VCA-12V-1.5ASA (see pages 16 and 82).
3. If you use PoE (Power-over-Ethernet), we recommend one of our PoE power supply units (see pages 16 and 77).
4. ONVIF available as firmware update as of Q3/2011.

SANTEC IP dome cameras

ONVIF

Available as of 07/2011 HD 720p ONVIF

Available as of 07/2011 HD 720p ONVIF

Available as of 07/2011 HD 1080p ONVIF

Technical specifications

Part number	SNC-620/W	SNC-6301M	SNC-6221MIR	SNC-6223MIR
Type	Day/Night minidome camera	Day/Night minidome camera	Day/Night minidome camera	IP Day/Night bullet camera
Sensor type	1/3" Sony Super HAD CCD Chip	1/3" 1.3 MP Sony Progressiv Scan CMOS	1/3" 1.3 MP Sony Progressiv Scan CMOS	1/2.8" 3.1 MP Sony progressive scan CMOS
Picture resolution (pixel)	D1 (720 x 576)	1.3 MP (1280 x 1024)	1.3 MP (1280 x 1024)	3.1 MP (2048 x 1536)
Max. frame rate (fps)	25 at D1 (720 x 576)	25 at 1.3 MP (1280 x 1024)	25 at 1.3 MP (1280 x 1024)	25 at 2 MP / 20 at 3.1 MP
Compression (video)	MJPEG / MPEG-4	MJPEG / MPEG-4 / H.264	MJPEG / MPEG-4 / H.264	MJPEG / MPEG-4 / H.264
Number of video streams	2	3	3	3
Lens mount	Board mount	Board mount	Board mount	Board mount
Iris control	DC	DC	DC	DC
Lens type	built-in manuell vario lens	built-in manuell vario lens	built-in manuell vario lens	built-in motor. vario lens
Focal length	2.8–12 mm	2.8–12 mm	2.8–12 mm	2.8–12 mm
IR cut filter	IR-Cut filter (mechanic)	No	IR-Cut filter (mechanic)	IR-Cut filter (mechanic)
Sensitivity	0.05 / 0.002 lux	0.2 / 0.01 lux	0.2 / 0.01 / 0 (IR-Led)	0.2 / 0.01 / 0.00 (IR-Led)
Backlight compensation	BLC, HLC	WDR	WDR	WDR
Day/night mode adjustment	Auto / Color / b/w	Auto / Color / b/w	Auto / Color / b/w	Auto / Color / b/w
Digital zoom	No	No	No	No
Privacy zones	8	No	No	No
Audio inputs	3.5 mm plug	No	3.5 mm plug	3.5 mm plug
Audio outputs	3.5 mm plug	No	3.5 mm plug	3.5 mm plug
Switch input contacts	1	0	1	1
Switch output contacts	1	0	1	1
Control interface	No	No	No	No
Motion detection	Yes	Yes	Yes	Yes
Schedule	Yes	Yes	Yes	Yes
Picture upload	HTTP / FTP / SMTP	HTTP / FTP / SMTP	HTTP / FTP / SMTP	HTTP / FTP / SMTP
Internal memory	micro SDHC card (optional)	micro SDHC card (optional)	SD card (optional)	micro SDHC card (optional)
Ethernet connector	RJ-45	RJ-45	RJ-45	RJ-45
Ethernet standards	10Base-T / 100Base-TX	10Base-T / 100Base-TX	10Base-T / 100Base-TX	10Base-T / 100Base-TX
Power over Ethernet (PoE)	IEEE 802.3af, Midspan/Endspan	IEEE 802.3af, Midspan/Endspan	IEEE 802.3af, Midspan/Endspan	IEEE 802.3af, Midspan/Endspan
Classification	IP-66	IP-44	IP-66	IP-66
Integrated IR LEDs	No	No	Yes	Yes
Voltage	12 V DC	12 V DC	12 V DC	12 V DC
Power consumption (watt)	48	4.8	4.8	4.8 without IR-LEDs / 7.2 with IR-LEDs
Operating temperature (°C)	–20 to +50	–20 to +50	–20 to +50	–20 to +50
Dimensions D x H (mm)	132 x 120	131.5 x 112	131.5 x 112	92 x 88 x 296
Weight	700 g	500 g	1000 g	1000 g

Description

SANTEC IP dome cameras are flexible in their applications and have an unobtrusive look. They provide excellent quality and innovation. The cameras can be powered using PoE (Power-over-Ethernet) and they are equipped with the latest DSP and sensor technology. They can directly be browser-configured so that all camera adjustments can be made via a network.

The top-class model amongst the IP dome cameras is SNC-6223MIR which produces pictures with up to 3.1 mega pixel resolution (2048 x 1536 pixel).

Cameras SNC-6221MIR and SNC-6223MIR have integrated IR-LEDs which produce excellent pictures at night. Thanks to the WDR function (Wide Dynamic Range), these cameras are ideal for continuous operations (24/7).

Notes

1. Optionally, SANTEC IP cameras can be delivered with an internal micro SDHC card. Please mention this extra feature when ordering your camera for the first time. Product information on micro SDHC cards and their prices are available on our website at: www.santec-video.com
2. ONVIF available as firmware update as of Q3/2011.

SANTEC IP outdoor cameras

Technical specifications

Part number	SNC-521IR/W	SNC-5211MIR	SNC-5223MIR
Type	IP Day/Night bullet camera	IP Day/Night bullet camera	IP Day/Night bullet camera
Sensor type	1/3" Sony Super HAD CCD Chip	1/3" 1.3 MP Sony Progressiv Scan CMOS	1/2.8" 3.1 MP Sony progressive scan CMOS
Picture resolution (pixel)	D1 (720 x 576)	1.3 MP (1280 x 1024)	3.1 MP (2048 x 1536)
Max. frame rate (fps)	25 at D1 (720 x 576)	25 at 1.3 MP (1280 x 1024)	25 at 2 MP / 20 at 3.1 MP
Compression (video)	MJPEG / MPEG-4	MJPEG / MPEG-4 / H.264	MJPEG / MPEG-4 / H.264
Number of video streams	2	3	3
Lens mount	Board mount	Board mount	Board mount
Iris control	DC	DC	DC
Lens type	built-in manuell vario lens	built-in manuell vario lens	built-in motor. vario lens
Focal length	2.8–12 mm	3.5–16 mm	2.8–12 mm
IR cut filter	IR-Cut filter (mechanic)	IR-Cut filter (mechanic)	IR-Cut filter (mechanic)
Sensitivity	0.05 / 0 lux with IR-LEDs	1.0 / 0.3 / 0 (IR-Led)	0.2 / 0.01 / 0.00 (IR-Led)
Backlight compensation	BLC, HLC	WDR	WDR
Day/night mode adjustment	Auto / Color / b/w	Auto / Color / b/w	Auto / Color / b/w
Digital zoom	10x, adjustable	No	No
Privacy zones	8	No	No
Audio inputs	3.5 mm plug	3.5 mm plug	3.5 mm plug
Audio outputs	3.5 mm plug	3.5 mm plug	3.5 mm plug
Switch input contacts	1	1	1
Switch output contacts	1	1	1
Control interface	No	No	No
Motion detection	Yes	Yes	Yes
Schedule	Yes	Yes	Yes
Picture upload	HTTP / FTP / SMTP	HTTP / FTP / SMTP	HTTP / FTP / SMTP
Internal memory	SD card (optional)	SD card (optional)	micro SDHC card (optional)
Ethernet connector	RJ-45	RJ-45	RJ-45
Ethernet standards	10Base-T / 100Base-TX	10Base-T / 100Base-TX	10Base-T / 100Base-TX
Power over Ethernet (PoE)	IEEE 802.3af, Midspan/Endspan	IEEE 802.3af, Midspan/Endspan	IEEE 802.3af, Midspan/Endspan
Classification	IP-66	IP-66	IP-67
Integrated IR-LEDs	Yes	Yes	Yes
Voltage	12 V DC	12 V DC	12 V DC
Power consumption (watt)	4.8 without IR-LEDs / 7.2 with IR-LEDs	4.8 without IR-LEDs / 7.2 with IR-LEDs	4.8 without IR-LEDs / 7.2 with IR-LEDs
Operating temperature (°C)	–20 to +50	–20 to +50	–20 to +50
Dimensions W x H x D (mm)	92 x 88 x 296	92 x 88 x 296	92 x 88 x 296
Weight	600 g	600 g	1000 g

Description

SANTEC IP outdoor cameras are weather-proof (IP-66) and have built-in IR-LEDs. They are ideal for all weather applications.

The cameras come with PoE (Power-over-Ethernet) and the latest DSP and sensor technology.

They can directly be browser-configured so that all camera adjustments can be made via a network.

The IP outdoor cameras are available with up to 3.1 mega pixel resolution and provide excellent pictures with up to 2048 x 1536 pixel (SNC-5223MIR). These mega pixel cameras provide real-time pictures (25 fps) and state-of-the-art H.264 codec which saves storage capacity resulting in a very long recording period

Notes

1. If you use 12 V DC, we recommend power supply unit VCA-12V-1.5ASA (see pages 16 and 82).
2. ONVIF available as firmware update as of Q3/2011.

SANTEC IP speed-domes & 360° cameras

Technical specifications

Part number	SNC-P3601M	SNC-670ID/W	SNC-637ID
Type	Color minidome camera	IP Day/Night speed dome camera	IP Day/Night speed dome camera
Sensor type	1/3" 1.3 MP Sony Progressiv Scan CMOS	1/4" Sony Super HAD CCD Chip	1/4" Double Density Interline Transfer CCD
Picture resolution (pixel)	1.3 MP (1280 x 1024)	D1 (720 x 576)	D1 (720 x 576)
Max. frame rate (fps)	25 at 1.3 MP (1280 x 1024)	25 at D1 (720 x 576)	25 at D1 (720 x 576)
Compression (video)	MJPEG / MPEG-4 / H.264	MJPEG / MPEG-4	MJPEG / MPEG-4
Number of video streams	3	2	2
Lens mount	CS	Board mount	Board mount
Iris control	DC	DC	DC
Lens type	built-in 360° ImmerVision lens	motor zoom lens	motor zoom lens
Focal length	0.9–1.15 mm	3.8–38 mm	3.5–129.5 mm
IR cut filter	electronic	IR-Cut filter (mechanic)	IR-Cut filter (mechanic)
Sensitivity	1.0 lux	0.7 / 0.02 lux	0.7 / 0.06 lux
Backlight compensation	WDR	BLC	BLC, HLC, WDR
Day/night mode adjustment	Auto / Color / b/w	Auto / Color / b/w	Auto / Color / b/w
Zoom range (opt./dig.)	– / –	10x / 10x	37x / 12x
Privacy zones	No	4	8
Audio inputs	3.5 mm plug	3.5 mm plug	3.5 mm plug
Audio outputs	3.5 mm plug	3.5 mm plug	3.5 mm plug
Switch input contacts	1	1 digital / 4 analogue	1 digital / 3 analogue
Switch output contacts	1	1 digital	1 digital / 1 analogue
Control interface	No	RS-485	No
Motion detection	Yes	Yes	Yes
Schedule	Yes	Yes	Yes
Picture upload	HTTP / FTP / SMTP	HTTP / FTP / SMTP	HTTP / FTP / SMTP
Internal memory	SD card (optional)	SD card (optional)	SD card
Ethernet connector	RJ-45	RJ-45	RJ-45
Ethernet standards	10Base-T / 100Base-TX	10Base-T / 100Base-TX	10Base-T / 100Base-TX
Power over Ethernet (PoE)	IEEE 802.3af, Midspan/Endspan	No	No
Classification	IP-54	IP-66	IP-66
Voltage	12 V DC	12 V DC	12 V DC
Power consumption (watt)	4.8	11.5	15.6
Operating temperature (°C)	–10 to +50	–20 to +50	–20 to +50
Dimensions W x H x D (mm)	135 x 120 x 135	167 x 167 (R x H)	185 x 280 x 293
Weight	1100 g	1600 g	2000 g

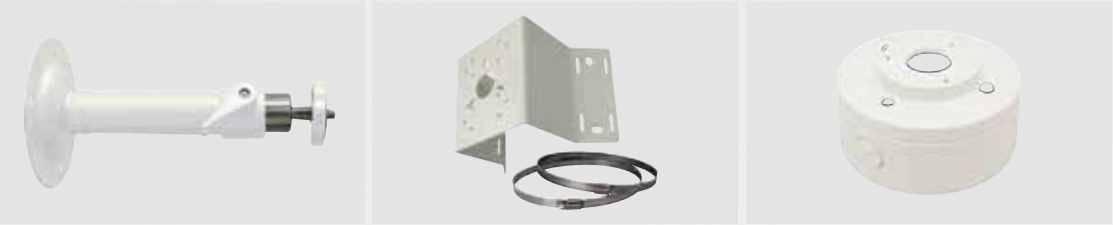
Description

SANTEC SNC-P3601M is an innovative 360° camera with panomorph lens. It comes pre-assembled with a housing and is hence ready-to-use. Thanks to its unique lens, a 360° surveillance with different perspectives is possible (360°, 2 x 180° or 4 x 90°) without having any “blind spot”. SANTEC SNC-P3601M is a network dome camera with 1.3 mega pixel resolution and H.264 codec.

Notes

1. If you use 12 V DC, we recommend power supply unit VCA-12V-1.5ASA (see pages 16 and 82).
2. If you use PoE (Power-over-Ethernet), we recommend one of our PoE power supply units (see pages 16 and 77).
3. ONVIF available as firmware update as of Q3/2011

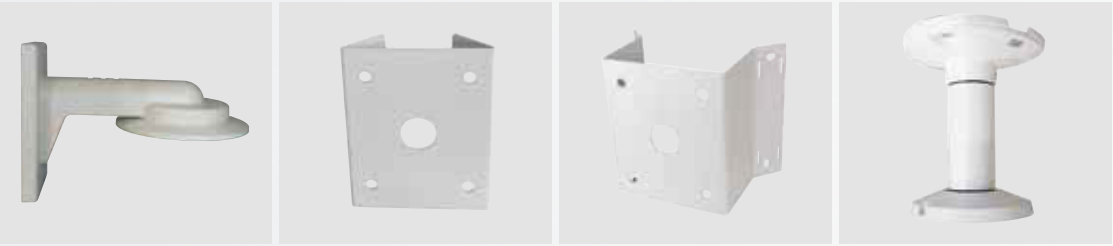
SANTEC accessories for IP cameras



Technical specifications

Part number	VA-13WIK | VA-13WIK/10	CMP-220W	JB-100/W
Type	Camera holder	Corner mount incl. clamps	Montage box
Installation site	for indoor	—	—
Installation option	Ceiling and wall mounting	—	—
Suitable for	SNC-390DN/W, SNC-3901MDN, SNC-3903MDN	SNC-521IR/W, SNC-5223MIR, SNC-5211MIR	SNC-521IR/W, SNC-5223MIR, SNC-5211MIR
Housing material	—	Metal	Metal
Colour	Beige	White	White
Loading capacity	2 kg	—	—
Length (mm)	130	—	—
Specials	Also available as 10 pcs/pack	—	—

Accessories for SANTEC speed-domes



Technical specifications

Part number	WM-610	PM-600	CM-600	CLM-637
Type	Wall mount	Pole mount	Corner mount	Ceiling Mount
Installation option	Wall mounting	Mast mounting	Corner mounting	Ceiling mounting
Dimensions W x H x D (mm)	100 x 185 x 280	120 x 192 x 40	160 x 190 x 100	130 x 158
Suitable for	SNC-670ID/W	WM-610 (SNC-670ID/W), SNC-637ID	WM-610 (SNC-670ID/W), SNC-637ID	SNC-637ID

Power adapter for SANTEC IP cameras

Technical specifications

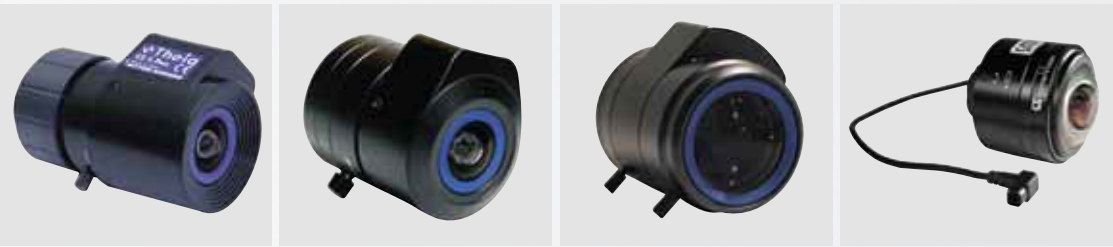
Part number	SanPower-MS01	SanPoE-15S	VCA-12V-1.5ASA
Type	PoE midspan	PoE midspan	Power supply
Ethernet standards	10Base-T / 100Base-TX / 1000Base-TX	10Base-T / 100Base-TX / 1000Base-TX	—
Input voltage	100 –240 V AC	36–56 V DC	230 V AC
Output voltage	12 V DC	12 V DC	12 V DC stabilized, max. 1.5 A
Cable end / Connector	RJ-45	Plug	Plug with adapter open cable ends
Design	Desktop, plastic	Desktop, plastic	Plug housing, plastic
Dimensions W x H x D (mm)	140 x 65 x 36	100 x 56 x 28	48 x 33 x 75

SANTEC lenses for IP mega pixel cameras

Technical specifications

Part number	15161DN	17141DN	17131
Type	Vario Lens	Vario Lens	Vario Lens
Format	1/3"	1/3"	1/3"
Mount	CS	CS	CS
Max. resolution	1.3 MP (1280 x 1024)	3 MP (2048 x 1536)	3 MP (2048 x 1536)
Day/night correction (IR)	Yes	Yes	No
Focal length (mm)	5.0–50.0	2.8–6.0	2.8–8.0
Iris regulation	DC	DC	DC

Theia and ImmerVision lenses



Technical specifications

Part number	SY110A	SL183A	SL940A	IMV1-1/3 | IMV1-1/3NI
Type	Ultra wide angle lens	Ultra wide angle lens	Vario	360° panomorph lens
Format	1/2.5"	1/3"	1/2.5"	1/3"
Mount	CS	CS	CS	CS
Max. resolution	3 MP (2048 x 1536)	5 MP (2560 x 1920)	5 MP (2560 x 1920)	1.3 MP (1280 x 1024)
Day/night correction (IR)	Yes	Yes	Yes	No
Focal length (mm)	1.67	1.8–3.0	9.0–40.0	0.9–1.15
Iris regulation	DC	DC	DC	DC | manual

Note

You will find a list of recommended cameras on www.santec-video.com

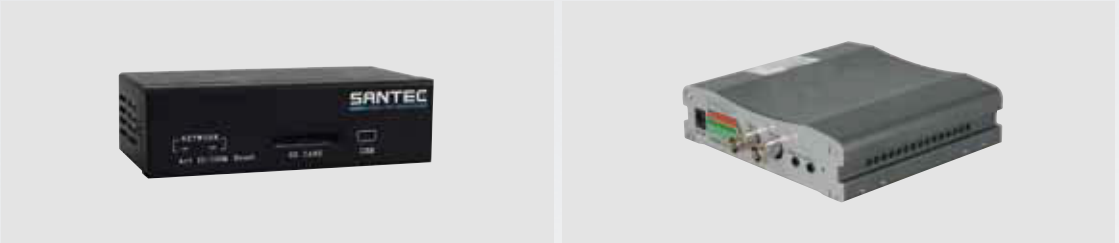
ImmerVision 360° lenses: Technology

The revolutionary 360° ImmerVision lens IMV1-1/3 enables comprehensive surveillance with just one single camera. The unique panomorph lens provides a 360° surveillance area with different perspectives. Everything is visible at all times – there are no more "blind spots". Contrary to common 360° lenses, the ImmerVision lens allows for subsequent changes to the perspective of recorded pictures. In connection with the current SanGuard and NUUO software, PTZ control with a virtual or an analogue joystick is possible. It is easy to display even intricate surveillance situation thanks to the ability to simultaneously show full screen, 4 x 90° or 2 x 180° picture details.

The ImmerVision lens can be utilized for analogue CCTV cameras as well as for IP cameras with up to 1.3 mega pixel resolution. The new SANTEC camera SNC-3601M is a 360° camera with panomorph lens which is pre-assembled with a housing and thus immediately ready-for-use.

Panomorph camera views: Using the ImmerVision player, the SanGuard and the NUUO software, it is possible to display different views: 1x, 4x or 180°.

SANTEC 1-channel IP video server



Technical specifications

Part number	SVS-1001	SVS-1100
Type	Video server	Video server
Video input/output	1 x BNC / 1 x BNC	1 x BNC / 1 x BNC
Compression (video)	MJPEG / MPEG-4	MJPEG / MPEG-4
Resolution	D1, 2CIF, CIF, QCIF	D1, 2CIF, CIF, QCIF
Max. frame rate (fps)	25 at D1 (720 x 576)	25 at D1 (720 x 576)
Audio in-/outputs	1x / 1x	1x / 1x
Digital in-/outputs	1x / 1x	3x / 1x
RS-485 interface	Yes	Yes
Number of Ethernet ports	1	1
Power over Ethernet (PoE)	No	Yes
USB interface	USB 2.0	No
SD-card slot	Yes	Yes
Video Content Analytics (VCA)	No	No
Voltage	12 V DC	12 V DC
Dimensions W x H x D (mm)	110 x 34 x 70	134 x 140 x 38
Weight	320 g	579 g

SANTEC 4-channel IP video server

Technical specifications

Part number	SVE-ST1000SA	SVE-ST4003B	SVE-ST4010B
Type	Video server	Video server	Video server
Video input/output	1 x BNC / 1 x BNC	4x / 0x	4x / 0x
Compression (video)	MJPEG / MPEG-4 / H.264	MJPEG / MPEG-4 / H.264	MJPEG / MPEG-4 / H.264
Resolution	D1, 2CIF, CIF, QCIF	D1, 4CIF, VGA, CIF, QVGA, QCIF	D1, 4CIF, VGA, CIF, QVGA, QCIF
Max. frame rate (fps)	25 at D1 (720 x 576)	100 at D1 (720 x 576)	100 at D1 (720 x 576)
Audio in-/outputs	1x / 1x	4x / 1x	4x / 1x
Digital in-/outputs	2x / 2x	4x / 2x	4x / 2x
RS-485 interface	Yes	Yes	Yes
Number of Ethernet ports	1	1	1
Power over Ethernet (PoE)	Yes	No	No
USB interface	USB 2.0	USB 2.0	USB 2.0
SD-card slot	Yes	No	No
Video Content Analytics (VCA)	Yes	Yes	Yes
Voltage	12 V DC	12 V DC	12 V DC
Dimensions W x H x D (mm)	103 x 38 x 141	241 x 125	268 x 128
Weight	385 g	370 g	380 g

SANTEC IP video server racks

Technical specifications

Part number	SVE-ST-RACK3	SVE-ST-RACK10
Type	Video server rack	Video server rack
Video input/output	max. 12 per rack	max. 40 per rack
Design	19"	19"
Available slots	3	10
Rack mount (U)	1	4
Number of Ethernet ports	3	10
Fan	2 x 4,500 rpm	3 x 1,800 rpm
Voltage	90–240 V AC	90–240 V AC
Power consumption (watt)	max. 55	max. 140
Operating temperature (°C)	0 to +60	0 to +60
Dimensions W x H x D (mm)	482 x 44 x 286	482 x 177 x 325
Weight	1.8 kg wihout encoder	6.9 kg without Encoder
Specials	for 3 x SVE-ST4003B	for 10 x SVE-ST4010B

IP video server (VCA licences): Technology

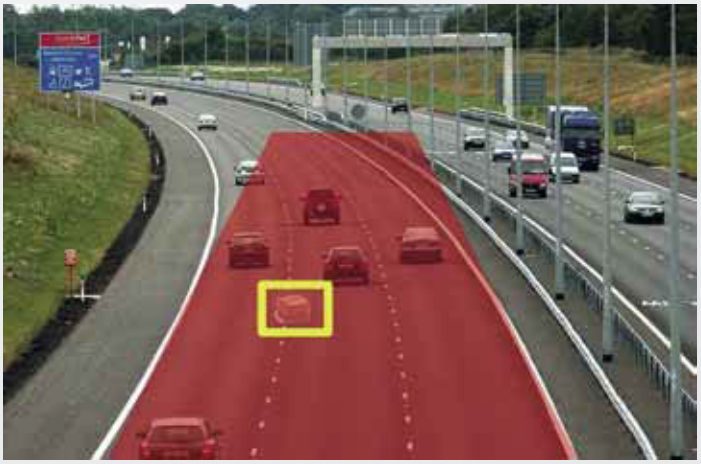
SANTEC's SVE encoder include an integrated, free-of-charge video analytic software (VCA Presence) featuring the following:

- Motion detection
- Camera sabotage (shaking and covering)

The video analytics software can be expanded by the VCA Surveillance module to include the following powerful functions:

- Direction-based motion detection
- People counting
- Vehicle counting
- Detection of moved or lost objects
- Path detection
- Loitering of people
- Object classification

Depending on the required video analytic application, different licences are available. Further information can be found at: www.santec-video.com.



SANTEC CCTV cameras

The SANTEC cameras of the VTC-8000 series are innovative and comprise a technology which is unique to the market. Thus these cameras are ideal for demanding applications.

The integrated G-sensor triggers an alarm if the camera is sabotaged or moved. Moreover, the G-sensor serves as an optical tool for a perfect and fast installation. Latest CCD and DSP technology enable excellent pictures at a very high resolution, hence perfect round-the-clock application. The built-in active twisted pair transmitter ensures easy installation. The cameras have an integrated self-test function which indicates – via LEDs on the camera's front panel – the current camera status and immediately signals potential malfunctions.

Technical specifications

Part number	VTC-8120WDP | VTC-8122WDP	VTC-8320WDP | VTC-8322WDPU
Type	Day/Night box camera	Day/Night box camera
Video norm	PAL	PAL
Sensor	1/3"	1/3"
Sensor type	Sony CCD Chip	Sony Super HAD II CCD Chip
Horizontal resolution (TVL)	650 (color) / 650 (b/w)	650 (color) / 650 (b/w)
S/N ratio (dB)	> 52 dB	> 55 dB
Lens mount	C/CS	C/CS
Iris control	DC/manual	DC/manual
IR cut filter	IR-Cut filter (mechanic)	IR-Cut filter (mechanic)
Sensitivity	0.05 / 0.0001 lux	0.05 / 0.0001 lux
Backlight compensation	WDR, BLC, ECLPS	WDR, BLC, ECLPS
Wide dynamic range (WDR)	Yes	Yes
Day/night mode adjustment	Auto / Color / b/w / extern	Auto / Color / b/w / extern
Camera adjustments	OSD, multi language	OSD, multi language
Digital zoom	8x, adjustable	8x, adjustable
Image stabilisation	yes, digital	Yes, digital
Motion detection (zones)	8	8
Privacy zones	8	8
Camera title	15 characters	15 characters
Video output	BNC, 75 Ohm 1Vpp	BNC, 75 Ohm 1Vpp
UTP (twisted pair)	No	Yes, Screw terminal
Switch input contacts	1, Day/Night switching	1, Day/Night switching
Switch output contacts	2, (Motion, Day/Night)	3, (Motion, Day/Night, 3G-Sensor)
Control interface	No	RS-485
Sabotage/positioning protection	No	3G-Sensor
Self-test function	Yes, opitical by LED	Yes, opitical by LED
Housing colour	Black	Black
Housing material	Aluminium	Aluminium
Voltage	90–240 V AC | 12 V DC / 24 V AC	90–240 V AC | 12 V DC / 24 V AC
Power consumption (watt)	5	5
Operating temperature (°C)	–10 to +50	–10 to +50
Dimensions W x H x D (mm)	62 x 65 x 130	62 x 65 x 130
Weight	400 g	400 g
Specials	VTC-8122WDP (12V DC / 24V AC)	VTC-8322WDP (12 V DC / 24 V AC)

Notes

1. The lens shown in the picture above is not included in the delivery.
2. If you use 12 V DC, we recommend power supply unit VCA-12V-1.5 ASA (see pages 28 and 82).

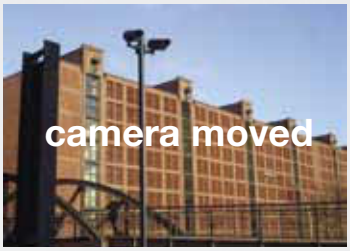
Camera sets

As a service, we provide ready assembled sets which have individually been put together in our service centre. The camera sets consist of proven and matching components and thus provide a time and cost-saving solution during the installation phase.
The sets come with a special IR DC lens and a 2 m cable made of solid, halogen-free material which is particularly appropriate for outdoor applications. You will find the camera sets on page 21.

SANTEC VTC-8000 camera series: Technology

The cameras provide a technical innovation: the new built-in G-sensor. This sensor has two main functions:

- It detects if the camera has been moved or turned out of position after it has been installed.
  Thus the G-sensor provides a sabotage and position protection.
- It serves as an electronic water level (displayed via LED) which is an optical tool to assist the user during the installation phase of the camera.



G-sensor: Sabotage and positioning protection as well as electronic water level
If the camera is moved or sabotaged by a hit, the built-in 3G-sensor triggers an alarm.
A respective note is displayed in the video picture and an output contact is activated for a defined period of time.
In addition, the built-in LEDs indicate in different colours the status of the camera.

Infrared camera sets

Technical specifications

Part number	IR65-SET-8120WDP	IR65-SET-8320WDP	IR75-SET-8120WDP	IR75-SET-8320WDP
Type	IR-Camera set	IR-Camera set	IR-Camera set	IR-Camera set
Housing typ	HEL-IR65D	HEL-IR65D	HEL-IR75D	HEL-IR75D
Camera type	VTC-8120WDP	VTC-8320WDP	VTC-8120WDP	VTC-8320WDP
Focal length	7.5–50 mm	7.5–50 mm	7.5–50 mm	7.5–50 mm
IR range (m)	up to 70	up to 70	up to 170	Yes
Integrated wall bracket	Yes	Yes	Yes	Yes
Voltage	230 V AC	230 V AC	230 V AC	230 V AC

Note

The range of the built-in IR-LEDs strongly depends on the location and the surroundings. Strongly absorbent surfaces, e.g. dark, rough structures (floor, lawn or asphalt), may lead to a considerable reduction of the maximum range.

Camera sets

Technical specifications

Part number	VTC-8120WDP-A62	VTC-8120WDP-AZ62	VTC-8320WDP-A62	VTC-8320WDP-AZ62
Type	Camera set	Camera set	Camera set	Camera set
Housing typ	HEL-62D	HEL-62D	HEL-62D	HEL-62D
Heater	Yes	Yes	Yes	Yes
Camera type	VTC-8120WDP	VTC-8120WDP	VTC-8320WDP	VTC-8320WDP
Focal length	2.8–12 mm	7.5–50 mm	2.8–12 mm	7.5–50 mm
Integrated wall bracket	Yes	Yes	Yes	Yes
Voltage	230 V AC	230 V AC	230 V AC	230 V AC

Cable for sets

Part number
KS-EXT-1

For camera sets, the feed cables can be extended, if requested. When placing your order for KS-EXT-1, please indicate the required cable length.

SANTEC dome cameras

Technical specifications

Part number	VTC-262PWD	VTC-274PWDU	VTC-HDH210FSP	VTC-HDH322PWD
Type	Color minidome camera	Color minidome camera	Day/Night vandal-proof dome camera	Day/Night vandal-proof dome camera
Horizontal resolution (TVL)	650 (color) / 650 (b/w)	650 (color) / 650 (b/w)	580 (color) / 580 (b/w)	650 (color) / 650 (b/w)
Lens type	manual zoom lens	manual zoom lens	Fix lens	manual zoom lens
Focal length	2.8–12 mm	2.8–12 mm	3 mm	2.8–12 mm
Sensitivity	0.05 / 0.0001 lux	0.05 / 0.0001 lux	0.1 lux	0.05 / 0.0002 lux
Backlight compensation	WDR, BLC, ECLPS	WDR, BLC, ECLPS	BLC	WDR, BLC, ECLPS
UTP (twisted pair)	No	Yes (passiv)	No	No
Control interface	No	RS-485	No	No
Classification	IP-44	IP-44	IP-66	IP-66
Camera mounting	Surface mount	Surface mount	Surface / flush mount	Surface mount
Voltage	12 V DC / 24 V AC	12 V DC / 24 V AC	12 V DC	12 V DC
Power consumption (watt)	3.5	3.5	4	3.5
Operating temperature (°C)	–10 to +50	–10 to +50	–10 to +50	–10 to +50
Dimensions D x H (mm)	140 x 96	140 x 96	83 x 70	110 x 80
Weight	350 g	350 g	400 g	550 g

Note

A white cover is available for camera VTC-HDH322P (CABD322W, on page 28).

SANTEC cameras: Technology

Important details become clearer by correcting too bright spots (ECLPS).

Information with extreme differences in brightness can be displayed using WDR.

Highlight compensation (ECLPS)
This technology ensures that bright light is reversed in the picture which, for example, occurs with illuminators. Due to the reduced blinding light, details become visible, e.g. a car's licence plate located between two headlights.

Wide Dynamic Range (WDR)
The dynamic range of a video recording is increased which results in more visible details for dark as well as for bright areas in the picture.

Usually, a camera monitors an indoor area with a bright light source in the background (e.g. a glass door or a window). The camera automatically finds the best picture settings and it evens out dark and bright areas. Information which would usually be dark in the foreground, become brighter.

SANTEC IR dome cameras

Technical specifications

Part number	VTC-HDH444IRPWDU	VTC-HDH432IRPWD	VTC-HDH359IRP/W	VTC-HDH359IRP/G
Type	Day/Night vandal-proof dome camera	Day/Night vandal-proof dome camera	Day/Night vandal-proof dome camera	Day/Night vandal-proof dome camera
Horizontal resolution (TVL)	650 (color) / 650 (b/w)	650 (color) / 650 (b/w)	580 (color) / 580 (b/w)	580 (color) / 580 (b/w)
Lens type	manual zoom lens	manual zoom lens	manual zoom lens	manual zoom lens
Focal length	2.8–12 mm	2.8–12 mm	2.8–12 mm	2.8–12 mm
Sensitivity	0.05 / 0.0 lux	0.05 / 0.0 lux	0.3 / 0.0 lux	0.3 / 0.0 lux
Backlight compensation	WDR, BLC, ECLPS	WDR, BLC, ECLPS	BLC	BLC
UTP (twisted pair)	Yes (passiv)	No	No	No
Control interface	RS-485	No	No	No
Classification	IP-66	IP-66	IP-66	IP-66
Camera mounting	Surface / flush mount	Surface / flush mount	Surface mount	Surface mount
IR range (m)	up to 20	up to 20	up to 15	up to 15
Voltage	12 V DC / 24 V AC	12 V DC / 24 V AC	12 V DC	12 V DC
Power consumption (watt)	4.5	4.5	6	6
Operating temperature (°C)	–10 to +50	–10 to +50	–10 to +50	–10 to +50
Dimensions D x H (mm)	144 x 120	144 x 120	120 x 96	120 x 96
Weight	1050 g	1050 g	600 g	600 g

Notes

1. The range of the built-in IR-LEDs strongly depend on the location and the surroundings. Strongly absorbent surfaces, e.g. dark, rough structures (floor, lawn or asphalt) may lead to a considerable reduction of the maximum range.
2. If you use 12 V DC, we recommend power supply unit VCA-12V-1.5ASA (see pages 28 and 82).
3. Cameras VTC-274PWDU and VTC-HDH444IRPWDU can be powered by using the twisted pair components VTUD1, VEZ-4SYS and VEZ-16SYS and the optional power supply unit (see page 74).

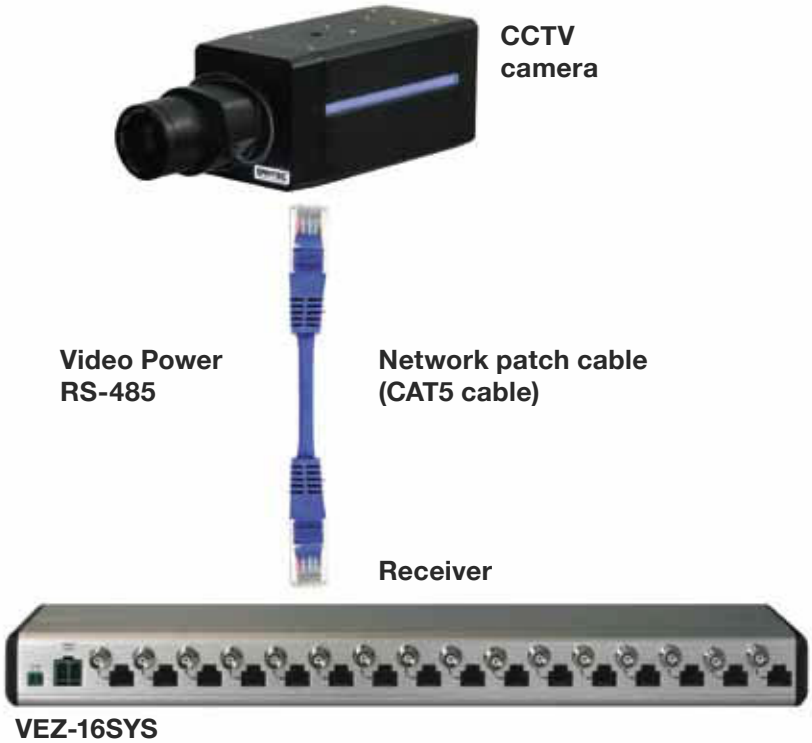
SANTEC twisted pair cameras: Technology

Using twisted pair system technology, a modern and future-proof video surveillance system can be created with CCTV cameras. CAT5 cables with RJ-45 connectors play a major role here (network patch cables).
This future-oriented installation ensures an easy and cost-effective conversion to IP technology at a later date.

The cameras of the “U“ series (VTC-8322WDPU, VTC-274PWDU, VTC-HDH444IRPWDU, VTC-280IRPWDU) have a built-in twisted pair transmitter with RJ-45 connector which allows for a direct connection to a twisted pair receiver using a network cable.

The video picture is transmitted from the camera using a CAT5 cable. The receiver device, e.g. VEZ-4SYS or VEZ-16SYS, supplies power. Telemetry data (RS-485) for setting camera parameters can also be transmitted.

Twisted pair technology works in the same way as PoE does for IP technology.



SANTEC outdoor cameras

Technical specifications

Part number	VTC-249IRP/W	VTC-279IRPWD | VTC-282IRPWD	VTC-280IRPWDU	VTC-289IRPWD
Type	Day/Night bullet camera	Day/Night bullet camera	Day/Night bullet camera	Day/Night bullet camera
Horizontal resolution (TVL)	540 (color) / 540 (b/w)	650 (color) / 650 (b/w)	650 (color) / 650 (b/w)	650 (color) / 650 (b/w)
Lens type	manual zoom lens	manual zoom lens	manual zoom lens	manual zoom lens
Focal length	4–9 mm	2.8–12 mm	2.8–12 mm | 9–22 mm	5–50 mm
Sensitivity	0.1 / 0.0 lux	0.05 / 0.0 lux	0.05 / 0.0 lux	0.05 / 0.0 lux
Backlight compensation	BLC	WDR, BLC, ECLPS	WDR, BLC, ECLPS	WDR, BLC, ECLPS
UTP (twisted pair)	No	No	RS-485	No
Control interface	No	No	Yes, RJ-45 Buchse	No
Classification	IP-66	IP-66	IP-66	IP-66
Integrated IR-LEDs	Yes	Yes	Yes	Yes
IR range (m)	up to 20	up to 40	up to 40	up to 40
Voltage	12 V DC	12 V DC / 24 V AC	12 V DC / 24 V AC	12 V DC / 24 V AC
Power consumption (watt)	4.5	9.6	9.6	9.6
Operating temperature (°C)	–10 to +50	–20 to +50	–20 to +50	–20 to +50
Dimensions W x H x D (mm)	59 x 59 x 190	82 x 78 x 256	82 x 78 x 256	82 x 78 x 256
Weight	450 g	1050 g	1050 g	1050 g

Notes

1. The range of the built-in IR-LEDs strongly depend on the location and the surroundings. Strongly absorbent surfaces, e.g. dark, rough structures (floor, lawn or asphalt) may lead to a considerable reduction of the maximum range.
2. Camera VTC-280IRPWDU can be powered by using the twisted pair components VTUD1, VEZ-4SYS and VEZ-16SYS and the optional power supply unit (see page 74).

SANTEC cameras: Technology

Split glass technology separates the lens from the IR-LEDs.

BNC video test connector for adjustment and service purposes. Lens and OSD can externally be set.

Privacy zones can be customized.

The cables run inside the wall bracket to protect them from external manipulations.

Split glass technologie (SGT)
Thanks to split glass technology, the IR-LEDs are ideally separated from the lens so that refl ections in the front glass are avoided.

Video test connector
This is an additional video output located inside the housing. It facilitates camera adjustments on site done by the technician.

Privacy zones
By masking certain areas in the picture, it is possible to create zones which are neither displayed nor recorded. The positions and areas of these masks are freely programmable. Hence privacy can effectively be protected.

Cable management
The cables run inside the wall bracket to protect them from external manipulations.

On screen display (OSD)
Camera adjustments are done via an OSD menu which is displayed in the video picture. The OSD enables easy access to the camera settings which are done with the help of a mini-joystick.

SANTEC motor zoom cameras

Technical specifications

Part number	VTC-652DNP
Type	Day/Night Motor zoom camera
Horizontal resolution (TVL)	580 (color) /600 (b/w)
Lens type	built-in motor zoom lens
Focal length	3.9–85.8 mm
Sensitivity	0.5 / 0.001 lux
Wide Dynamic Range (WDR)	Yes
Auto focus	automatic / manual
Zoom (optical/digital)	22x, adjustable / 16x, adjustable
Video output	BNC, 75 Ohm 1 Vpp
Control interface	RS-422 / RS-485
Control protocols	Santec, Pelco P/D
Voltage	12 V DC
Power consumption (watt)	5
Operating temperature (°C)	–10 to +50
Dimensions WxHxD (mm)	62 x 70 x 120
Weight	335 g

Note

When using 12 V DC, we recommend power supply unit VCA-12V-1.5ASA

SANTEC cameras: Technology

Night pictures are qualitative improved using DNR.

The built-in image stabilizer reduces jittering.

Top: 580 TVL
Bottom: 650 TVL

Digital noise reduction (DNR)
DNR improves the S/N ratio and leads to enhanced picture quality. At the same time, the required storage capacity for connected digital recorders is reduced by up to 40%.

Digital image stabilizer (DIS)
The built-in image stabilizer reduces picture jitters caused by vibrations, e.g. on bridges. Since less data is being produced, less storage capacity is required on the recording system (MPEG).

580/650 TVL comparison
Cameras with 650 TVL provide more security and details thanks to sharper pictures.

SANTEC mini and discrete cameras

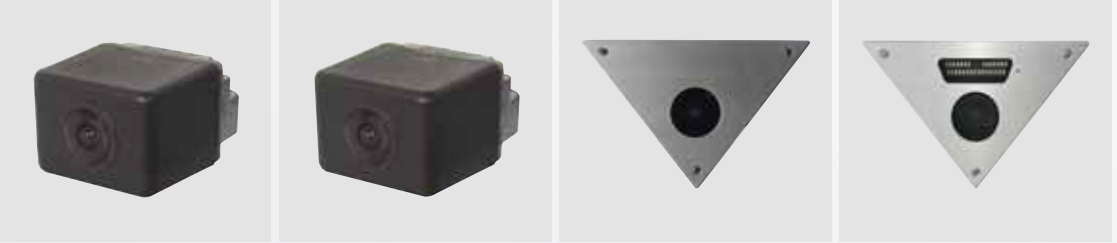
Technical specifications

Part number	VTC-258P/B	VTC-512D	VTC-2612D
Type	Colour mini camera	Color discrete camera	Color discrete camera
Horizontal resolution (TVL)	540	480	480
Lens type	Fix lens	Fix lens	Fix lens
Focal length	3.6 mm	3.7 mm	3.7 mm
Sensitivity	0.1 lux	0.3 lux	0.05 lux
Video output	BNC, 75 Ohm 1 Vpp	BNC, 75 Ohm 1 Vpp	BNC, 75 Ohm 1 Vpp
Switch input contacts	0	1	0
Switch output contacts	0	1	0
Camera mounting	bracket included	Surface mount	Surface mount
Housing colour	Black	White	White
Housing material	Aluminium	Plastic, PIR-Detector housing	Plastic, Smoke detector housing
Voltage	12 V DC	12 V DC	12 V DC
Power Consumption (watt)	2	2	1.5
Operating temperature (°C)	–10 to +50	–10 to +50	–10 to +50
Dimensions D x H (mm)	26 x 75	70 x 120 x 48	70 x 120 x 48
Weight	110 g	180 g	180 g

Note

Camera VTC-258P/B comes with a suitable power supply unit. For cameras VTC-512D and VTC-6212D we recommend power supply unit VCA-12V-1.5ASA (see page 28 and 82).

SANTEC mini and discrete cameras



Technical specifications

Part number	VRV-110P	VRV-120MP	VTC-E100P	VTC-E220IRP
Type	Colour mini camera	Colour mini camera	Colour corner camera	Day/night special camera
Horizontal resolution (TVL)	330	330	550	550 (color) / 550 (b/w)
Lens type	Fix lens	Fix lens	Fix lens	Fix lens
Focal length	1.9 mm	1.9 mm	2.3 mm	2.3 mm
Sensitivity	2 lux	2 lux	0.5 lux	0.5 lux
Video output	BNC, 75 Ohm 1 Vpp	BNC, 75 Ohm 1 Vpp	BNC, 75 Ohm 1 Vpp	BNC, 75 Ohm 1 Vpp
Integrated IR-LEDs	No	No	No	Yes
IR range (m)	No	—	No	up to 5
IR-LED illuminant	—	—	—	30
Voltage	12 V DC	12 V DC	12 V DC	12 V DC
Power consumption (watt)	2	2	2	4
Operating temperature (°C)	–10 to +50	–10 to +50	–10 to +50	–10 to +50
Dimensions W x H x D (mm)	33 x 25 x 41	33 x 25 x 41	210 x 140 x 45	210 x 140 x 45
Weight	62 g	62 g	430 g	430 g

Notes

1. The mini and discrete cameras come without a power supply unit. Recommended SANTEC power supply unit: VCA-12V-1.5ASA (see page 28 and 82).
2. Cameras VRV-110P and VRV-120MP are classified IP-68 and are e-certified for mobile applications.

SANTEC board cameras

Technical specifications

Part number	VCK-842NP	VCK-850PWD
Type	Color board camera	Day/Night board camera
Horizontal resolution (TVL)	480	650 (color) / 650 (b/w)
Lens mount	Installed Pinhole lens 3.7 mm	Board mount
Sensitivity	0.1 lux	0.05 / 0.0001 lux
Backlight compensation	BLC	WDR, BLC, ECLPS
Voltage	12 V DC	12 V DC
Dimensions DxH (mm)	42 x 42 x 34	42 x 42 x 25

Note

Camera VCK-850PWD comes without a lens. Recommended lenses are listed below.

SANTEC board cameras / lenses

Technical specifications

Part number	13836	13860	13880	13816
Type	Lens	Lens	Lens	Lens
Mount	Board mount	Board mount	Board mount	Board mount
Focal length	3.6 mm	6 mm	8 mm	16 mm
Suitable for	VCK-850PWD	VCK-850PWD	VCK-850PWD	VCK-850PWD

SANTEC dummy cameras

Technical specifications

Part number	DUM-8100	VTC-262-DUM
Type	Dummy box camera	Dummy minidome camera
Camera mounting	screw fastening top/bottom	Surface mount
Housing colour	Black	White
Housing material	Aluminium	Plastic
Dimensions W x H x D (mm)	62 x 65 x 130	140 x 96
Weight	280 g	350 g

SANTEC accessories for CCTV cameras

Technical specifications

Part number	VA-13WIK | VA-13WIK/10	VA-13SIK | VA-13SIK/10	COV-IN6272W	CABD322W
Type	Camera holder	Camera holder	Dome bubble	Dome cover
Installation site	for indoor	for indoor	VTC-262PWD, VTC-274PWDU	VTC-HDH322P
Installation option	Ceiling and wall mounting	Ceiling and wall mounting	Dome bubble with white inside cover	Cover
Colour	Beige	Black	clear / White	White
Loading capacity	2 kg	2 kg	–	–
Length (mm)	130	130	–	–
Specials	Also available as 10 pcs/pack	Also available as 10pcs/pack	–	–

SANTEC accessories for CCTV cameras

Technical specifications

Part number	CMP-220W	WB-HDH	JB-100/W	VCA-12V-1.5ASA
Type	Corner mount incl. clamps	Camera holder	Installation box	Power supply unit
Suitable for	VTC-279IRPWD, VTC-280IRPWDU, VTC-282IRPWD, VTC-289IRPWD, VTC-HDH359IRP/W	VTC-262PWD, VTC-274PWDU, VTC-HDH322PWD (with white cover) VTC-HDH359IRP/W	VTC-279IRPWD, VTC-280IRPWDU, VTC-282IRPWD, VTC-289IRPWD, VTC-249IRP/W	CCTV cameras
Housing material	Metal	Metal	Metal	Plastic
Colour	White	White	White	Black
Input voltage	–	–	–	230 V AC
Output voltage	–	–	–	12 V DC stabilised, max. 1.5 A
Cable end	–	–	–	Plug with open cable end

SANTEC lenses for CCTV cameras D1 (720 x 576)

Technical specifications

Part number	14131DN/B	14141DN/B	14161DN
Type	Vario Lens	Vario Lens	Vario Lens
Format	1/3"	1/3"	1/3"
Mount	CS	CS	CS
Day/night correction (IR)	Yes	Yes	Yes
Focal length (mm)	2.8–12.0	3.0–8.5	7.5–50.0
Picture angle (horizontal)	84°–24°	78°–32°	36°–5°
Iris regulation	DC	DC	DC

SANTEC Dome cameras

Technical specifications

Part number	VDC-610ID/W	VDC-295ID	VDC-295AIOD-WM	VDC-295AIOD-WBJB
Type	Day/night speed dome	Day/night speed dome	Day/night speed dome	Day/night speed dome
Sensor	1/4"	1/4"	1/4"	1/4"
Sensor type	Sony Super HAD CCD Chip	ExView HAD CCD	ExView HAD CCD	Sony ExView HAD CCD
Horizontal resolution (TVL)	540 (color) / 540 (b/w)	580	580	580
Lens type	motor zoom lens	motor zoom lens	motor zoom lens	motor zoom lens
Focal length	3.8–38 mm	3.9–85.8 mm	3.9–85.8 mm	3.9–85.8 mm
Zoom range (opt./dig.)	10x / 10x	22x / 16x	22x / 16x	22x / 16x
Sensitivity	0.7 / 0.02 lux	1.0 / 0.02 lux	1.0 / 0.02 lux	1.0 / 0.02 lux
Wide Dynamic Range (WDR)	—	Yes	Yes	Yes
Tilt angle (°)	0° ~ 90°	−10° ~ 190° (Digital flip)	−10° ~ 190° (Digital flip)	−10° ~ 190° (Digital flip)
Classification	IP-66	—	IP-65	IP-65
Alarm inputs / outputs	4 / 1	8 / 4	4 / 1	4 / 1
Voltage	12 V DC	24 V AC	24 V AC	24 V AC
Operating temperature (°C)	−10 to +50	0 to +50	−40 to +50	−40 to +50
Dimensions D x H (mm)	167 x 167	125 x 202	234 x 278	234 x 278
Weight	1.5 kg	1.2 kg	4.3 kg	5.8 kg

SANTEC Dome cameras

Technical specifications

Part number	VDC-435ID	VDC-435AIOD-WM	VDC-435AIOD-WBJB
Type	Day/night speed dome	Day/night speed dome	Day/night speed dome
Sensor	1/4"	1/4"	1/4"
Sensor type	Sony ExView CCD-Chip	Sony ExView CCD-Chip	Sony ExView CCD-Chip
Horizontal resolution (TVL)	540 (color) / 540 (b/w)	540 (color) / 540 (b/w)	540 (color) / 540 (b/w)
Lens type	motor zoom lens	motor zoom lens	motor zoom lens
Focal length	3.5–91.0 mm	3.5–91.0 mm	3.5–91.0 mm
Zoom range (opt./dig.)	26x / 10x	26x / 10x	26x / 10x
Sensitivity	1.0 / 0.07 lux	1.0 / 0.07 lux	1.0 / 0.07 lux
Wide Dynamic Range (WDR)	Yes	Yes	Yes
Tilt angle (°)	−10° ~ 190° (Digital flip)	−10° ~ 190° (Digital flip)	−10° ~ 190° (Digital flip)
Classification	—	IP-65	IP-65
Alarm inputs / outputs	8 / 4	4 / 1	4 / 1
Voltage	24 V AC	24 V AC	24 V AC
Operating temperature (°C)	0 to +50	−40 to +50	−40 to +50
Dimensions W x H x D (mm)	125 x 202	234 x 278	234 x 278
Weight	1.2 kg	4.3 kg	5.8 kg

Notes

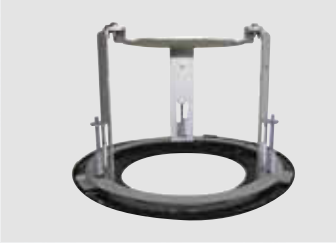
1. Recommended power supply unit for VDC-295ID and VDC-435ID: VCA-200.
2. Recommended power supply unit for VDC-295AIOD-WM and VDC-435AIOD-WM: VCA-600/A.
3. Recommended power supply unit for VDC-610ID/W: VCA-12V-2A/A.

Accessories SANTEC dome systems

Technical specifications

Part number	WM-610	PM-600	CM-600
Type	Wall mount	Pole mount	Corner mount
Installation option	Wall mounting	Pole mounting	Corner mounting
Dimensions W x H x D (mm)	100 x 185 x 280	120 x 192 x 40	160 x 190 x 100
Suitable for	VDC-610ID/W and SNC-670ID/W	WM-610 (VDC-610ID/W, SNC-670ID/W), SNC-637ID	WM-610 (VDC-610ID/W, SNC-670ID/W), SNC-637ID

Accessories SANTEC dome systems



Technical specifications

Part number	HCS251-HV	HDH-306-IS	HDH-306-OC
Type	Ceiling mount adapter	Camera housing	Camera housing
Classification	–	IP-44	IP-66
Suitable for	VDC-295 / 435	VDC-295 / 435	VDC-295 / 435
Front screen	–	non-reflecting glass, hardened	non-reflecting glass, hardened
Heater	–	Yes	Yes
Thermostat	–	Yes	Yes
Fan	–	Yes	Yes
Voltage	–	12 V DC / 24 V AC	24 V AC
Dimensions D x H (mm)	220 x 212	210 x 278	234 x 278
Items included in delivery	Incl. smoked glass	–	–

Accessories SANTEC dome systems

Technical specifications

Part number	CX-HDH-306	WM-HDH-306	WBJB-HDH-306	CM-HDH-306
Type	Connection cable set	Wall mount	Wall mount	Ceiling Mount
Voltage	–	–	230 V AC	–
Voltage output	–	–	24 V AC	–
Suitable for	HDH-306/WBJB-HDH-306/ WM-HDH-306	HDH-306-IS/OS	HDH-306-IS/OC	HDH-306-IS/OC
Dimensions W x H x D (mm)	–	120 x 140 x 260	174 x 215 x 270	Length 400 mm

Accessories SANTEC dome systems

Technical specifications

Part number	HCM-150	HCM-151	HCM-200	AP-HDH-306
Type	Corner Mount Adapter	Camera holder	Gooseneck holder	Mounting plate
Installation option	Corner mounting	Pole mounting	Ground installation	–
Max. remote cable lenght	–	80 to 150	–	–
Dimensions WxH (mm)	185 x 121	180 x 121	1008 x 628	–
Suitable for	WM-HDH-306	WM-HDH-306	HDH-306-IS/OC	WBJB-HDH-306 to HCM-150/151

Power adapter for SANTEC speed-domes

Technical specifications

Part number	VCA-12V-2A/A	VCA-200	VCA-500	VCA-600/A
Type	Power supply unit	Power supply unit	Power supply unit	Power supply unit
Input voltage	230 V AC	230 V AC	230 V AC	230 V AC
Output voltage	12 V DC stabilised, max. 2 A	24 V AC, max. 2.1 A	24 V AC, max. 5 A	24 V AC, max. 5 A
Cable end / output	Screw connection	Open cable end	Open cable end	Screw connection
Housing	Weather-proof (IP-66)	Desktop housing, open cable ends	Desktop housing, open cable ends	Weather-proof (IP-66)
Dimensions W x H x D (mm)	110 x 90 x 210	100 x 65 x 135	110 x 65 x 170	110 x 90 x 210
Specials	–	–	–	–

Note

The Mounting plate BP-125-XE for the speed domes VDC-295ID and VDC-435ID can be ordered optionally.

Control Keyboards

Technical specifications

Part number	KSC-3505	DCJ.3	DCZ
Type	Keyboard	Keyboard	Keyboard
Touchscreen	No	No	No
Password protection	Yes	Yes	No
Joystick	Yes, 3-axes	Yes, 3-axes	Yes, 3-axes
Control keys	Function keys	Function keys	Function keys
Numbers of controlled multiplexer/cameras	255	999	16
RS-485 interface	Yes, 1x	Yes, 3x	–
Matrix management	No	Yes, 1x	No
Power supply	230 V AC / 12 V DC	230 V AC / 12 V DC	230 V AC / 12 V DC
Suitable for	SanStore digital recorders and speed-domes	Dome, Ulisse	Windows XP, 2000, Vista, Windows 7
Control protocols	Pelco D/P and more	Pelco D/P and more	Dedicated Virtual Com Port protocol, joystick HID 4-axis 32 key emulation
Specials	–	–	USB 2.0

Note

Power supply units are included in the delivery.

RS-485 distributor

Technical specifications

Part number	DCRE485
Type	RS-485 splitter
RS-485 interface	Yes
RS-485 inputs	1
RS-485 outputs	8
RS-485 signal length (m)	max. 1,200
RS-485 extension	No
Cascade connection	Yes
Power consumption (watt)	10
Voltage	230 V AC
Operating temperature (°C)	0 to +45
Dimensions W x H x D (mm)	222 x 186 x 40

ULISSE pan/tilt systems

The ULISSE pan/tilt system has explicitly been designed for outdoor day/night video surveillance. The system comprises a powerful pan/tilt head, a camera housing and a telemetry receiver – all in one unit. The system can additionally be equipped with two IR illuminators. ULISSE MAXI has been developed for wide lenses and ensures a precise positioning, even at long distances. ULISSE systems are ideal for applications on borders, motorways, city centres, stadiums, prisons and military facilities.

Further information can be found at:

www.santec-video.com

ULISSE COMPACT pan/tilt systems

The ULISSE COMPACT system comprises a powerful day/night camera, a pan/tilt head and a telemetry receiver and combines them in a particular compact design. ULISSE COMPACT is available with several optical zooms (10x, 18x and 36x) and is suitable for various application options. ULISSE COMPACT is also available with integrated IR illuminators.

Further information can be found at:

www.santec-video.com

ULISSE COMPACT THERMAL pan/tilt systems

ULISSE COMPACT THERMAL combines a thermal camera with a day/night motor zoom camera in a pan/tilt head. This solution enables video surveillance of difficult situations, e.g. in fog, total darkness or rain. The combination of two cameras ensures that all details are captured by the system. ULISSE COMPACT THERMAL has two independent video outputs. A simultaneous analysis of both cameras is possible.

Further information can be found at:

www.santec-video.com

Camera housings

Technical specifications

Part number	HEL-62D	HEL-IR65D	HEL-IR75D
Type	Weather proof housing	IR-Weather proof housing	IR-Weather proof housing
Classification	IP-66	IP-66	IP-66
Housing material	Aluminium	Aluminium	Aluminium
Housing colour	Gray	Gray	Gray
Sun shield	Yes	Yes	Yes
Heater	Yes	Yes	Yes
Thermostat	Yes	Yes	Yes
Fan	Yes	Yes	Yes
Integrated IR-LEDs	No	Yes	Yes
IRange (m)	No	up to 70	up to 170
IR illumination angle (horizontal)	No	30°	12°
Integrated wall bracket	Yes	Yes	Yes
Operating temperature (°C)	–20 to +60	–20 to +60	–20 to +60
Internal dimensions WxHxD (mm)	90 x 65 x 180	90 x 65 x 180	90 x 65 x 180
External dimensions WxHxD (mm)	150 x 160 x 374	150 x 160 x 374	150 x 160 x 374
Voltage	230 V AC	230 V AC	230 V AC
Weight	3.5 kg	3.5 kg	3.5 kg
Power consumption (watt)	22	32	32

Notes

1. The housings are also available as pre-assembled sets (see page 21).
2. The range of the built-in IR-LEDs strongly depends on the location and the surroundings. Strongly absorbent surfaces, e.g. dark, rough structures (floor, lawn or asphalt) may lead to a considerable reduction of the maximum range.

Camera housings

Technical specifications

Part number	HPV42K1A000	HPV42K2A000	HPV42K2A600
Housing type	Weather-proof housing	Weather-proof housing	Weather-proof housing
Classification	IP-66	IP-66	IP-66
Housing material	High-Technopolymer (Polycarbonat)	High-Technopolymer (Polycarbonat)	High-Technopolymer (Polycarbonat)
Housing colour	RAL 9002 (gray white)	RAL 9002 (gray white)	RAL 9002 (gray white)
Sun shield	Yes	Yes	Yes
Heater	Yes	Yes	Yes
Thermostat	Yes	Yes	Yes
Fan	No	No	No
Operating temperature (°C)	–20 to +60	–20 to +60	–20 to +50
Outer dimensions WxHxD (mm)	156 x 115 x 466	156 x 115 x 466	70 x 70 x 270
Internal dimensions WxHxD (mm)	70 x 70 x 270	70 x 70 x 270	156 x 115 x 466
Voltage	100–240 V AC	12 V DC / 24 V AC	HiPoE Splitter, 24 W, 12 V DC
Weight	1.5 kg	1.5 kg	1.5 kg

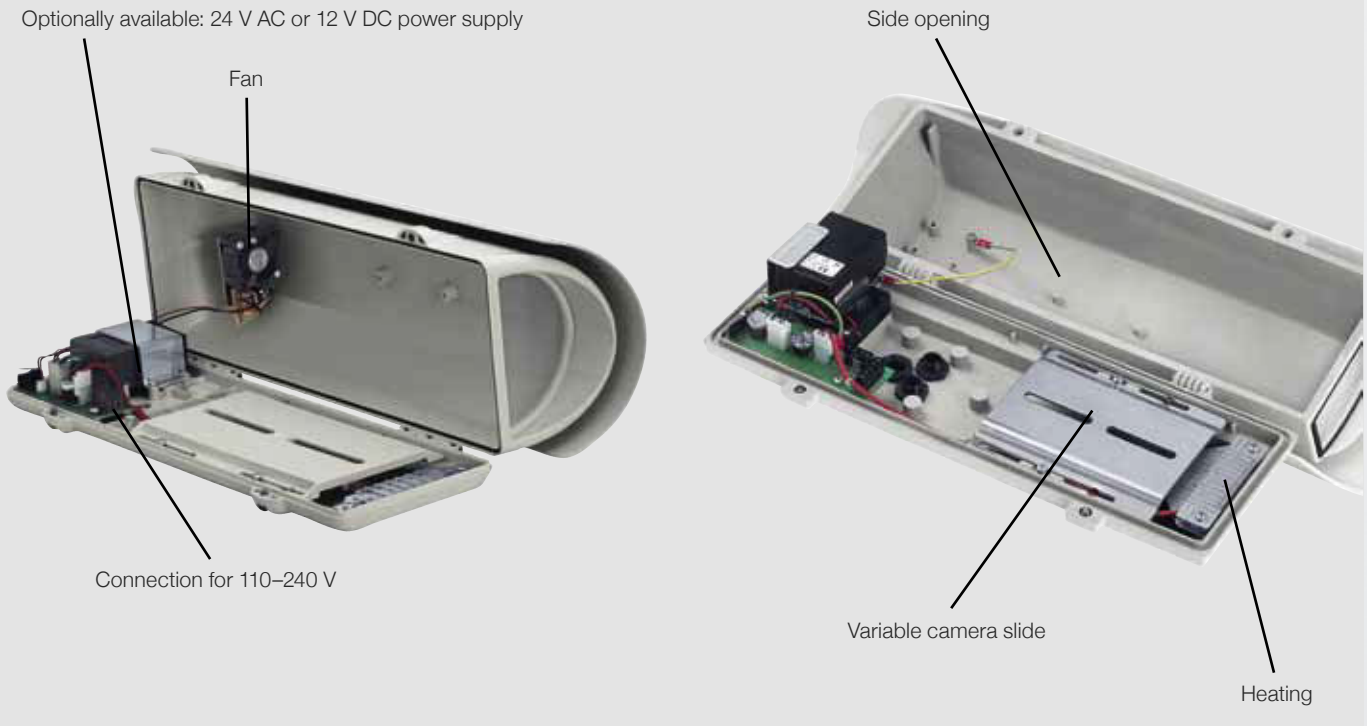
Camera housings

Technical specifications

Part number	HOT39D1A000	HOT39D2A000	HOV32K1A000	HOV32K2A000
Housing type	Weather-proof housing	Weather-proof housing	Weather-proof housing	Weather-proof housing
Classification	IP-66 / IP-67	IP-66 / IP-67	IP-66 / IP-67	IP-66 / IP-67
Housing material	High-Technopolymer (Polycarbonat)	High-Technopolymer (Polycarbonat)	Aluminium	Aluminium
Housing colour	RAL 9002 (gray white)	RAL 9002 (gray white)	RAL 9002 (gray white)	RAL 9002 (gray white)
Sun shield	No	No	Yes	Yes
Heater	Yes	Yes	Yes	Yes
Thermostat	Yes	Yes	Yes	Yes
Fan	No	No	No	No
Integrated wall bracket	No	No	No	No
Operating temperature (°C)	–20 to +60	–20 to +60	–20 to +60	–20 to +60
Outer dimensions WxHxD (mm)	146 x 128 x 391	146 x 128 x 391	140 x 160 x 514	140 x 160 x 514
Internal dimensions WxHxD (mm)	70 x 70 x 250	70 x 70 x 250	100 x 70 x 250	100 x 70 x 250
Voltage	100–240 V AC	12 V DC / 24 V AC	100–240 V AC	12 V DC / 24 V AC
Weight	1.0 kg	1.0 kg	3.0 kg	3.0 kg

Housing: Technology

Weather-proof housings are the best option to protect cameras from external impacts. It's easy and convenient to install and to maintain the cameras inside the housing due to smart product design.



Accessories for camera housings

Technical specifications

Part number	WBJA	WBOVA2	WCM5A	WCWA
Type	Wall mount	Wall mount	Ceiling Mount	Corner mount
Installation option	Wall mounting	Wall mounting	Ceiling mounting	Corner mounting
Cable management	No	Yes	No	No
Housing colour	RAL 9002 (gray white)	RAL 9002 (gray white)	RAL 9002 (gray white)	RAL 9002 (gray white)
Suitable for	HOT, HPV, HOV housing	HOT, HPV, HOV housing	HOT, HPV, HOV housing	WBJA / WBOVA2
Loading capacity	25 kg	25 kg	25 kg	30 kg
Length (mm)	285	200	390	–

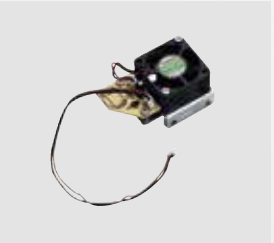
Accessories for camera housings

HOT39 series with sunshield
(housing not included in the delivery)

Technical specifications

Part number	WSFPA	HEL-IRMAST	OHOTS
Type	Pole mount	Pole mount	Sunshield
Installation option	Pole mounting	Corner and pole mounting	–
Cable management	No	No	–
Suitable for	WBJA / WBOVA2	HEL-62D / 65D / 75D	HOT39D1A000 / HOT39D2A000
Loading capacity	50 kg	–	–
Pole diameter (mm)	65 to 110	90 to 170	–
Dimensions W x H (mm)	175 x 110	140 x 120 x 75	–

Accessories for camera housings



Technical specifications

Part number	OHOTPS1	OHEPS19B	OHOVPS1B	OHPVV3
Type	Power supply	Power supply	Extension for camera housing	Fan for heating
Voltage	100–240 V AC	100–240 V AC	230 V AC	100–240 V AC
Voltage output	12 V DC	12 V DC	12 V DC	No
Suitable for	HOT39D1A000	HVP42K series	HOV32K1 series	HPV42K-Serie

Vandal-proof housings

Videotec's vandal-proof housings can be used in various applications due to their special features. Special focus has been put on the design and construction of these housings. These vandal-proof housings are made of high-strength steel sheet produced in painted steel using epoxypolyester powder. In connection with SANTEC cameras, manifold applications are possible.

Further information on vandal-proof housings is available on:

www.santec-video.com

Stainless steel housings

The Videotec stainless steel housings and pan/tilt heads have been designed to protect the cameras from particularly aggressive environmental conditions. They are entirely made of AISI 304 or AISI 316 stainless steel. In consideration of the extremely severe specifications, each detail has been carefully analysed, obtaining in this way very reliable products, suitable for industrial uses.

Further information on stainless steel housings is available on:

www.santec-video.com

Explosion-proof housings

The Videotec explosion-proof systems have been designed to meet rigorous requirements and installations in hazardous areas where flammable gases and powders may be present. All these housings are certified to meet the ATEX and IECEx standards. The housing can accommodate most camera and lens combinations while the pan/tilt head – thanks to the single multi-core pre-wired cable – simplifies installation and maintenance.

Further information on explosion-proof housings is available on:

www.santec-video.com

Infrared illuminators

SANTEC infrared illuminators have a wavelength of 850 nm. Illuminators with 950 nm are available on demand.

Technical specifications

Part number	IR-12DN	IR-13DN	IR-35DN	IR-70DN
Type	IR-LED illuminator	IR-LED illuminator	IR-LED illuminator	IR-LED illuminator
Classification	IP-65	IP-65	IP-65	IP-65
IR range (m)	up to 45	up to 35	up to 75	up to 100
IR illumination angle (horizontal)	40°	80°	80°	40°
Voltage	230 V AC	230 V AC	230 V AC	230 V AC
Power consumption (watt)	16	16	16	32
Dimensions W x H x D (mm)	120 x 80 x 65	120 x 80 x 65	160 x 106 x 88	160 x 106 x 88

Infrared illuminators

SANTEC infrared illuminators have a wavelength of 850 nm. Illuminators with 950 nm are available on demand.

Technical specifications

Part number	IR-60D	IR-100D	IR-200D
Type	IR-LED illuminator	IR-LED illuminator	IR-LED illuminator
Classification	IP-66	IP-66	IP-66
IR range (m)	up to 100	up to 150	up to 200
IR illumination angle (horizontal)	80°	45°	10°
Voltage	230 V AC	230 V AC	230 V AC
Power consumption (watt)	65	65	65
Dimensions W x H x D (mm)	210 x 140 x 143	210 x 140 x 143	210 x 140 x 143

Infrared illuminators

SANTEC infrared illuminators have a wavelength of 850 nm. Illuminators with 950 nm are available on demand.

Technical specifications

Part number	IR-180GD	HEL-IR65D	HEL-IR75D
Type	IR-LED all round illuminator	IR-Weather proof housing	IR-Weather proof housing
Classification	IP-44	IP-66	IP-66
Illumination area (m^2)	100	up to 70	up to 170
Illumination angle	180°	30°	12°
Voltage	12 V DC / 24 V AC	230 V AC	230 V AC
Power consumption (watt)	8	32	32
Dimensions D x H (mm)	108 x 70	150 x 160 x 374	150 x 160 x 374

White light illuminators

The white light illuminators have an intensity of 8,500 lumen.

Technical specifications

Part number	WL-50	WL-100	WL-200
Type	White light illuminator	White light illuminator	White light illuminator
Colour temperature (kelvin)	5650–7000	5650–7000	5650–7000
IR range (m)	up to 75	up to 150	up to 300
Illumination (horizontal)	140°	25°	10°
Voltage	230 V AC	230 V AC	230 V AC
Power consumption (watt)	120	120	120
Dimensions W x H x D (mm)	210 x 140 x 143	210 x 140 x 143	210 x 140 x 143

IR illuminator accessories

Technical specifications

Part number	WBJF	WBJM	HEL-IRMAST
Type	Wall mount	Wall mount	Pole mount
Installation option	Wall mounting	Wall mounting	Pole and corner mounting
Loading capacity	25 kg	25 kg	–
Length (mm)	285	285	–
Suitable for	Illuminator	Illuminator	HEL-62D, HEL-IR65D, HEL-IR75D
Mastdurchmesser (mm)	–	–	90 to 170

IR and white light illuminators: Technology

IR-illuminators
The SANTEC IR-LEDs operate on a wavelength of 850 nm and provide, together with SANTEC day/night CCTV cameras, the ideal solution for perfect picture quality even at night. Please bear in mind that light-absorbing surroundings may reduce the range of the IR-LEDs. Moreover, reflecting surfaces may lead to reflections in the video picture. Illuminators IR-12DN, IR-13DN, IR-35DN and IR-70DN are also available on request as DNX versions with 950 nm wavelength.

White light illuminators
Using SANTEC LED white light illuminators, an efficient and reliable illumination of the surroundings can be achieved. Compared to a 90 watt halogen lamp which generates a light of approx. 1,800 lumen, a white light illuminator with 120 watt power consumption generates a light of approx. 8,500 lumen. This means a factor of 4.7x, as much as a 90 watt halogen illuminator. Thanks to their high durability of at least 50,000 hours, SANTEC white light illuminators are a real alternative to common halogen illuminators which are maintenance-demanding and only have a mean of 1,000 operating hours – hence they are not ideal for applications in video surveillance systems. Furthermore, in order to achieve a comparable light result using a halogen illuminator, 500 watt would be required.

Example of WL-200

Note

The range of the built-in IR-LEDs strongly depend on the location and the surroundings. Strongly absorbent surfaces, e.g. dark, rough structures (floor, lawn or asphalt) may lead to a considerable reduction of the maximum range.

OUR MONITORS ARE AVAILABLE FROM 3.5" TO 55".

24 HOURS A DAY.

LCD Monitors

The monitors of the SLA series have specifically been developed for CCTV applications. They feature De-Interlace, 3D-comb filter, solid front glass and 2 BNC loop-through outputs (AX-models).

Technical specifications

Part number	SLA-15AX	SLA-17AX	SLA-19AX	SLA-17NV
Type	LCD monitor	LCD monitor	LCD monitor	LCD monitor
Screen diagonal	15" (38 cm)	17.1" (43 cm)	19.1" (48 cm)	17.1" (43 cm)
Video norm	PAL, NTSC	PAL, NTSC	PAL, NTSC	VGA / SVGA / XGA
Resolution pixel / TVL	1024 x 768 / > 600	1280 x 1024 / > 650	1280 x 1024 / > 650	1280 x 1024 / —
Brightness (cd/m²)	225	250	250	250
Video inputs	2 x BNC 1 x Y/C	2 x BNC 1 x Y/C	2 x BNC 1 x Y/C	—
PC video input	DVI	DVI	DVI	VGA-DVI
Resolution PC video input	VGA / SVGA / XGA@60Hz	VGA / SVGA / XGA / SXGA@60Hz	VGA / SVGA / XGA / SXGA@60Hz	VGA / SVGA / XGA@60Hz
Audio inputs	3.5 mm plug	3.5 mm plug	3.5 mm plug	3.5 mm plug
Voltage	12 V DC	12 V DC	12 V DC	12 V DC
Power consumption (watt)	36	33	37	28
Operating temperature (°C)	0 to +50	0 to +50	0 to +50	0 to +40
Dimensions W x H x D (mm)	340 x 285 x 53 (without stand)	372 x 324 x 53 (without stand)	420 x 360 x 53 (without stand)	370 x 324 x 53 (without stand)
Weight	3.1 kg	4.1 kg	4.4 kg	3.1 kg
Items included in delivery	Power Supply, DVI-cable	Power Supply, DVI-cable	Power Supply, DVI-cable	Power Supply, DVI-cable
Specials	Stand installed	Stand installed	Stand installed	Stand installed

Note

The listed dimensions are without monitor stand.

Touch screen option

On demand, the SLH monitor series (as of 32" screen diagonal) are also available with touch screen function.

Further information and prices can be found at: www.santec-video.com

SLM monitor series: Railway certification

The monitors of the SLM-series (8" to 19" screen diagonal) are also available with a special certification, e.g. for railway applications. You can identify these special monitor models by their part number's extension "NR" which is added to the regular part number. Like the standard SLM monitors, the railway certified monitors stand out due to their high resolution and excellent picture quality. The technical specifications are identical to those of the standard SLM monitors.

The monitors of the NR-series comply with the following certifications (for electronic applications in railways):

- EMC according to DIN EN 50121-3-2
- EMC according to DIN EN 50155
- Vibration/shock according to DIN EN 61373
- Fire protection 5510-2, 2009-05 according to DIN 54837: 2007-12
- Front screen class S 5, SR 2, ST2

You can download the monitor certificates from our website www.santec-video.com (see respective product section).

LCD Monitors

The monitors of the SLM series have specifically been developed for professional CCTV applications. They feature De-Interlace, 3D-comb filter, solid front glass, picture-in-picture (PiP), 2 BNC and 1 Y/C loop-through outputs.

Technical specifications

Part number	SLM-840N | SLM-840NR	SLM-1040N | SLM-1040NR	SLM-1210N / SLM-1210NR
Type	LCD monitor	LCD monitor	LCD monitor
Screen diagonal	8.4" (21 cm)	10.4" (26 cm)	12.1" (31 cm)
Video norm	PAL, NTSC	PAL, NTSC	PAL, NTSC
Resolution pixel / TVL	800 x 600 / > 650	800 x 600 / > 650	800 x 600 / > 650
Video inputs	2 x BNC 1 x Y/C	2 x BNC 1 x Y/C	2 x BNC 1 x Y/C
PC video input	VGA (Sub-D) 15pin	VGA (Sub-D) 15pin	VGA (Sub-D) 15pin
Resolution PC video input	SVGA@60Hz	SVGA@60Hz	SVGA@60Hz
POP (picture-on-picture) function	No	No	No
PIP (picture-in-picture) function	No	No	No
Audio inputs	1x Cinch	2 x Cinch	2 x Cinch
Voltage	12 V DC	12 V DC	12 V DC
Power consumption (watt)	11.2	15	19
Dimensions W x H x D (mm)	228 x 180 x 65	266 x 214 x 60	300 x 239 x 61
Weight	1.8 kg	2 kg	2.4 kg
Items included in delivery	IR-RC, Power Supply, VGA-Cable	IR-RC, Power Supply, VGA-Cable	IR-RC, Power Supply, VGA-Cable
Specials	Stand installed	Stand installed	Stand installed
Special certification	For railways (NR model)	For railways (NR model)	For railways (NR model)

SANTEC LCD CCTV Monitore

The monitors of the SLM series have specifically been developed for professional CCTV applications. They feature De-Interlace, 3D-comb filter, solid front glass, picture-in-picture (PiP), 2 BNC and 1 Y/C loop-through outputs.

Technical specifications

Part number	SLM-1500N | SLM-1500NR	SLM-1710N | SLM-1710NR	SLM-1910N | SLM-1910NR
Type	LCD monitor	LCD monitor	LCD monitor
Screen diagonal	15" (38 cm)	17.1" (43 cm)	19.1" (48 cm)
Video norm	PAL, NTSC	PAL, NTSC	PAL, NTSC
Resolution pixel / TVL	1024 x 768 / > 650	1280 x 1024 / > 650	1280 x 1024 / > 650
Video inputs	2 x BNC 1 x Y/C	2 x BNC 1 x Y/C	2 x BNC 1 x Y/C
PC video input	VGA (Sub-D) 15pin, DVI	VGA (Sub-D) 15pin, DVI	VGA (Sub-D) 15pin, DVI
Resolution PC video input	SVGA / XGA@60Hz	SVGA / XGA / SXGA@60Hz	SVGA / XGA / SXGA@60Hz
POP (picture-on-picture) function	Yes	Yes	Yes
PIP (picture-in-picture) function	Yes	Yes	Yes
Audio inputs	2 x Cinch	2 x Cinch	2 x Cinch
Voltage	12 V DC	12 V DC	12 V DC
Power consumption (watt)	32	30	33
Dimensions W x H x D (mm)	353 x 278 x 67	387 x 322 x 67	427 x 353 x 69
Weight	3.3 kg	4.6 kg	4.9 kg
Items included in delivery	IR-RC, Power Supply, VGA-Cable	IR-RC, Power Supply, VGA-Cable	IR-RC, Power Supply, VGA-Cable
Specials	Stand installed	Stand installed	Stand installed
Special certification	For railways (NR model)	For railways (NR model)	For railways (NR model)

Note

The listed dimensions are without monitor stand.

LCD Monitors

The monitors of the SLH-series have a professional metal frame with tempered non-reflecting protective glass. Hence they are ideal for security applications or industrial applications.

Technical specifications

Part number	SLH-1900C	SLH-2400C	SLH-3200C
Type	LCD monitor	LCD monitor	LCD monitor
Screen diagonal	19.1" (48 cm)	24" (60 cm)	32" (81 cm)
Video norm	PAL, NTSC	PAL, NTSC	PAL, NTSC
Resolution pixel / TVL	1280 x 1024 / > 650	1920 x 1200 / > 650	1366 x 768 / > 650
Picture format	4:3	16:10	16:9
Video inputs	2 x BNC, RGB HV	2 x BNC, RGB HV	2 x BNC, RGB HV
PC video input	VGA, DVI-D, HDMI	VGA, DVI-D, HDMI	VGA, DVI-D, HDMI
PIP/POP (picture-in-picture) function	Video / PC	Video / PC	Video / PC
Housing colour	Black	Black	Black
Housing material	Metal	Metal	Metal
Voltage	100–240 V AC	100–240 V AC	100–240 V AC
Power consumption (watt)	82	120	120
Dimensions W x H x D (mm)	406.8 x 332 x 76	557 x 366.6 x 79.36	763.6 x 453.6 x 91.3
Weight	8.9 kg	12 kg	18 kg
Items included in delivery	IR Remote control	IR Remote control	IR Remote control
Specials	—	Full HD	—

LCD Monitors

The monitors of the SLH-series have a professional metal frame with tempered non-reflecting protective glass. Hence they are ideal for security applications or industrial applications.

Technical specifications

Part number	SLH-4000C	SLH-4600C	SLH-5500C
Type	LCD monitor	LCD monitor	LCD monitor
Screen diagonal	32" (81 cm)	46" (116 cm)	55" (138 cm)
Video norm	PAL, NTSC	PAL, NTSC	PAL, NTSC
Resolution pixel / TVL	1920 x 1200 / > 650	1920 x 1200 / > 650	1920 x 1200 / > 650
Picture format	16:9	16:9	16:9
Video inputs	2 x BNC, RGB HV	2 x BNC, RGB HV	2 x BNC, RGB HV
PC video input	VGA, DVI-D, HDMI	VGA, DVI-D, HDMI	VGA, DVI-D, HDMI
PIP/POP (picture-in-picture) function	Video / PC	Video / PC	Video / PC
Housing colour	Black	Black	Black
Housing material	Metal	Metal	Metal
Voltage	100–240 V AC	100–240 V AC	100–240 V AC
Power consumption (watt)	240	260	350
Dimensions W x H x D (mm)	956 x 555 x 93.7	1087 x 631 x 94.2	1310.6 x 781.4 x 101.2
Weight	26.2 kg	34.3 kg	55.7 kg
Items included in delivery	IR Remote control	IR Remote control	IR Remote control
Specials	Full HD	Full HD	Full HD

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SANTEC SLH monitor series: Special features

The SLH-series stand out by their excellent pictures in full HD resolution, high-quality and manifold functionalities which are brand-new to the security market.

The monitors have a professional metal frame with tempered non-reflecting protective glass. Hence they are ideal for security applications or industrial applications. Highest performance and latest technology.

- Brilliant pictures in full HD resolution with 1920 x 1080 pixel (except for 19" and 32" models)
- Manifold connection options (e.g. 2x FBAS (BNC), VGA, DVI, HDMI, YPbPr, RGB/HV)
- Picture-in-picture (PIP) and picture-on-picture (POP) function (video/PC)
- 3D comb filter and De-Interlace function
- Ultra slim metal design
- Tempered protective glass
- RS-232 and USB interface for direct monitor settings
- Smart timer function for monitor settings so that it is only running when actually used. This saves energy.
- Smart temperature control function: An integrated fan controls the temperature inside the monitor. Hence the monitor's lifetime is extended.
- Integrated Ethernet (RJ-45) connector with web interface for remotely controlling the monitor (e.g. on/off/settings) via a network or the Internet (as of 40" models).
- Built-in video wall function which allows to combine several monitors to one large monitor wall.
- Detachable keyboard and IR remote control
- Built-in power supply

Video wall function

The built-in video wall function allows the SLH monitors to easily combine up to 64 monitors. Depending on the video wall type, additional components are required, such as a splitter or a matrix.

Further information is available at
www.santec-video.com

The Video wall function is easy to configure. It can easily set by the OSD of the monitors.

LCD Panels

Technical specifications

Part number	SLD-350M	SLD-500M	SLD-500MW	SLD-560M
Type	LCD-Panel	LCD-Panel	LCD-Panel	LCD-Panel
Screen diagonal	3.5" (8.9 cm)	5" (12.7 cm)	5" (12.7 cm)	5.6" (14 cm)
Resolution pixel	640 x 480	640 x 480	800 x 480	640 x 480
Picture format	4:3	4:3	16:9	4:3
Video inputs	2 x BNC 1 Vpp	2 x BNC 1 Vpp	2 x BNC 1 Vpp	2 x BNC 1 Vpp
PC video input	VGA (Sub-D) 15pin	VGA (Sub-D) 15pin	VGA (Sub-D) 15pin	VGA (Sub-D) 15pin
Dimensions W x H x D (mm)	111 x 90 x 19	145 x 112.88 x 25	145 x 102 x 23.7	153 x 124.45 x 25

LCD Panels

Technical specifications

Part number	SLD-650M	SLD-700MW	SLD-800M	SLD-1020MW
Type	LCD-Panel	LCD-Panel	LCD-Panel	LCD-Panel
Screen diagonal	6.5" (16.5 cm)	7" (17.8 cm)	8" (20.3 cm)	10.2" (25.9 cm)
Resolution pixel	640 x 480	800 x 480	800 x 600	16:9
Picture format	4:3	16:9	4:3	800 x 480
Video inputs	2 x BNC 1 Vpp	2 x BNC 1 Vpp	2 x BNC 1 Vpp	2 x BNC 1 Vpp
PC video input	VGA (Sub-D) 15pin	VGA (Sub-D) 15pin	VGA (Sub-D) 15pin	VGA (Sub-D) 15pin
Dimensions W x H x D (mm)	179.2 x 144 x 31	194.2 x 128.9 x 29	212,5 x 167 x 28	264,5 x 170 x 26

Note

These monitors are also available with touch screen function:
SLD-350MT, SLD-650MT, SLD-700MWT, SLD-800MT, SLD-1020MWT

Test monitor

Technical specifications

Part number	LCD-P56TG
Type	LCD test monitor
Screen diagonal	5.6" (14 cm)
Video inputs	2 x BNC 1 Vpp
Audio inputs	1
Voltage	9 V DC, LiO accumulator 2.6A
Dimensions W x H x D (mm)	180 x 120 x 34
Specials	built-in pattern generator

Flat Screen monitors accessories

Technical specifications

Part number	VA-VESA-151	VA-VESA-170	VA-VESA-171
Type	Monitor holder	Monitor holder	Monitor holder
Colour	Black	Black	Black
VESA standard (mm)	75 x 75 / 100 x 100	75 x 75 / 100 x 100	75 x 75 / 100 x 100
VESA installation option	Ceiling and wall mount	Ceiling and wall mount	Ceiling and wall mount
Length / wall distance (mm)	440	128	74
Loading capacity	8 kg	12 kg	8 kg
Specials	setup in 2 axix	pan / tilt / rotation 180°	pan / tilt / rotation 180°

Flat Screen monitors accessories

Technical specifications

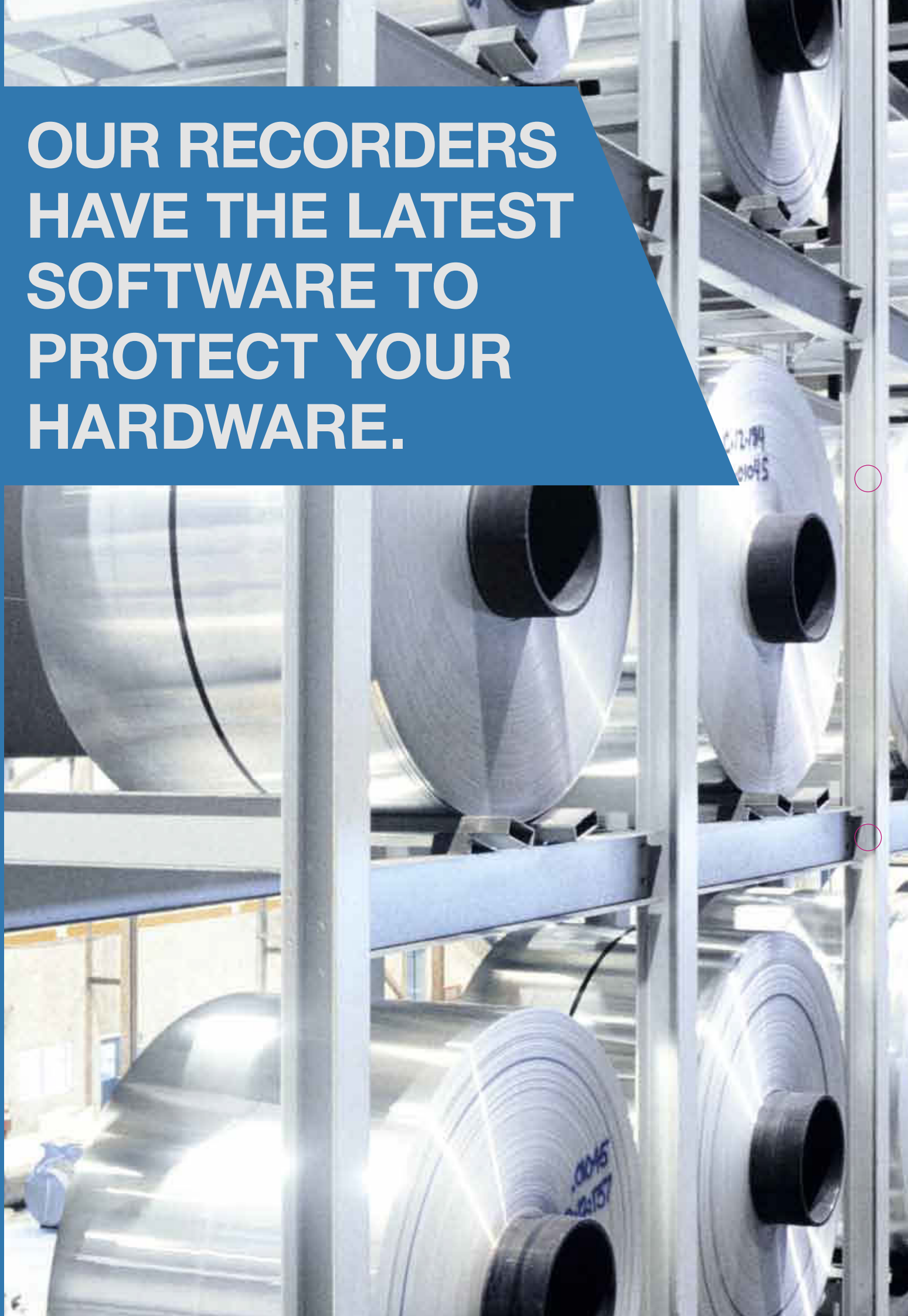
Part number	LCD-DEHA85	LCD-DEHA135	LCD-DEHA150X	LCD-DEHA300X
Type	Monitor holder	Monitor holder	Monitor holder	Monitor holder
Colour	silver gray	silver gray	silver gray	silver gray
VESA standard (mm)	100 x 100 / 200 x 100	100 x 100 / 200 x 100	max. 960 x 512	max. 960 x 512
VESA installation option	Ceiling mount	Ceiling mount	Ceiling mount	Ceiling mount
Length / wall distance (mm)	600 x 850	700 x 1350	1500	3000
Loading capacity	30 kg	12 kg	60 kg	60 kg
Specials	Also for inclined ceilings	Also for inclined ceilings	Also for inclined ceilings	Also for inclined ceilings

Flat Screen monitors accessories

Technical specifications

Part number	SLM-RACK-15	SLM-RACK-17	SLM-RACK-19	SLM-STAND-M
Type	Rack-Mount Adapter 19"	Rack-Mount Adapter 19"	Rack-Mount Adapter 19"	Monitor stand
Colour	Black	Black	Black	Black
Suitable for	SLM-1500N	SLM-1710N	SLM-1910N	monitors from 15" to 26"
Rack mount (U)	6	7	8	—
VESA standard (mm)	—	—	—	75 x 75 / 100 x 100
Dimensions W x H (mm)	278 x 104	316 x 91	348 x 68	250 x 384 x 220 (W x H x D)

OUR RECORDERS HAVE THE LATEST SOFTWARE TO PROTECT YOUR HARDWARE.



SanStore LEMX series

The SanStore LEMX-series are the ideal entry models into the world of SanStore recorders. These triplex-capable recorders are able to record video images in H.264 format. Depending on the model, up to 50 fps at D1 and up to 200 fps at CIF resolution are feasible. The recorders have a convenient user interface and manifold recording options. They can fully be controlled using a LAN network. The recorders can also be accessed by using suitable iPhone apps or Android smartphones. The SanStore-EMS software can be used to administer up to 300 recorders from one control centre.

Technical specifications

Part number	SanStore-4LEMX	SanStore-8LEMX	SanStore-16LEMX
Type	Digital video recorder, triplex	Digital video recorder, triplex	Digital video recorder, triplex
Video inputs	4 x BNC 1Vpp	8 x BNC 1Vpp	16 x BNC 1Vpp
Video outputs	No	No	No
Audio inputs	1 x Cinch	1 x Cinch	1 x Cinch
Audio outputs	1 x Cinch	1 x Cinch	1 x Cinch
Alarm inputs	4	8	16
Alarm outputs	1	1	1
HDD capacity (internal)	1 TB	1 TB	1 TB
Max. HDD capacity	2 TB	1 TB	1 TB
Max. number of HDDs (internal)	1 x S-ATA	1 x S-ATA	1x S-ATA
External HDD possible	No	No	No
RS-485 interface	Yes	Yes	Yes
USB interface	USB 2.0	USB 2.0	USB 2.0
USB ports	1 x Front	1 x Front	1 x Front
Monitor outputs	1 x BNC 1Vpp, 1 x VGA	1 x BNC 1Vpp, 1 x VGA	1 x BNC 1Vpp, 1 x VGA
Spot monitor outputs	1 x BNC 1Vpp	1 x BNC 1Vpp	1 x BNC 1Vpp
Internal RAID	No	No	No
DVD-RW	No	No	No
Control panels (external)	IR remote control / PC mouse / control keyboard	IR remote control / PC mouse / control keyboard	IR remote control / PC mouse / control keyboard
Number of Ethernet ports	1	1	1
Ethernet speed	10 / 100 Mbit	10 / 100 Mbit	10 / 100 Mbit
Video norm	PAL, NTSC	PAL, NTSC	PAL, NTSC
Compression (video)	H.264	H.264	H.264
Max. resolution	D1 (720 x 576)	D1 (720 x 576)	D1 (720 x 576)
Max. frame rate (fps)	25 at D1 (720 x 576) / 100 at CIF (360 x 288)	50 at D1 (720 x 576) / 200 at CIF (360 x 288)	50 at D1 (720 x 576) / 200 at CIF (360 x 288)
Picture data export	USB, network	USB, network	USB, network
Noise emission (dB)	0	45	45
Power consumption (watt)	36	36	36
Voltage	12 V DC using external power supply	12 V DC using external power supply	12 V DC using external power supply
Operating temperature (°C)	0 to +40	0 to +40	0 to +40
Dimensions W x H x D (mm)	280 x 60 x 316	280 x 60 x 316	280 x 60 x 316
Weight	2 kg with HDD	2 kg with HDD	2 kg with HDD

SanStore LMX series

The SanStore LMX-series is characterised by excellent picture quality, high recording speed in H.264 format with 100 fps in D1 and a good price/performance ratio. The LMX recorders feature smart search, bookmarks and simultaneous playback and live picture. Via a LAN network, easy and fast data analysis is possible and the data can be stored using the integrated DVD writer or an external USB device. Like for all SanStore recorders, suitable Apps for iPhones and Android smartphones are available. The SanStore-EMS software enables the administration of up to 300 recorders.

Technical specifications

Part number	SanStore-4LMX	SanStore-8LMX	SanStore-16LMX
Type	Digital video recorder, pentaplex	Digital video recorder, pentaplex	Digital video recorder, pentaplex
Video inputs	4 x BNC 1Vpp	8 x BNC 1Vpp	16 x BNC 1Vpp
Video outputs	No	No	No
Audio inputs	1 x Cinch	1 x Cinch	1 x Cinch
Audio outputs	1 x Cinch	1 x Cinch	1 x Cinch
Alarm inputs	4	4	4
Alarm outputs	1	1	1
HDD capacity (internal)	1 TB	1 TB	1 TB
Max. HDD capacity	2 TB	1 TB	1 TB
Max. number of HDDs (internal)	1 x S-ATA	1 x S-ATA	1 x S-ATA
External HDD possible	through USB	through USB	through USB
RS-485 interface	Yes	Yes	Yes
USB interface	USB 2.0	USB 2.0	USB 2.0
USB ports	1 x Front, 1 x Backside	1 x Front, 1 x Backside	1 x Front, 1 x Backside
Monitor outputs	1 x BNC 1Vss, 1 x VGA, 1 x HDMI	1 x BNC 1Vss, 1 x VGA, 1 x HDMI	1 x BNC 1Vss, 1 x VGA, 1 x HDMI
Spot monitor outputs	1 x BNC 1Vpp	1 x BNC 1Vpp	1 x BNC 1Vpp
Internal RAID	No	No	No
DVD-RW	Yes	Yes	Yes
Control panels (external)	IR remote control / PC mouse / control keyboard	IR remote control / PC mouse / control keyboard	IR remote control / PC mouse / control keyboard
Number of Ethernet ports	1	1	1
Ethernet speed	10 / 100 / 1000 Mbit	10 / 100 / 1000 Mbit	10 / 100 / 1000 Mbit
Video norm	PAL, NTSC	PAL, NTSC	PAL, NTSC
Compression (video)	H.264	H.264	H.264
Max. resolution	D1 (720 x 576)	D1 (720 x 576)	D1 (720 x 576)
Max. frame rate (fps)	100 at D1 (720 x 576)	100 at D1 (720 x 576) / 400 at 2CIF (720 x 288)	100 at D1 (720 x 576) / 200 at 2CIF (720 x 288)
Picture data export	USB / CD / DVD / Network	USB / CD / DVD / Network	USB / CD / DVD / Network
Noise emission (dB)	50	50	50
Power consumption (watt)	60	60	60
Voltage	12 V DC using external power supply	12 V DC using external power supply	12 V DC using external power supply
Operating temperature (°C)	0 to +40	0 to +40	0 to +40
Dimensions W x H x D (mm)	360 x 70 x 360	360 x 70 x 360	360 x 70 x 360
Weight	2.4 kg without HDDs	2.4 kg without HDDs	2.4 kg without HDDs

SanStore MMX series

The SanStore MMX-series features brilliant pictures, high recording speed in H.264 format with 100 fps in D1. The recorders have manifold configuration options, an easy-to-use menu interface and comprehensive functions, e.g. smart serach, bookmarks and simultaneous playback and live picture. Via a LAN network, easy and fast data analysis is possible and the data can be stored using the integrated DVD writer or an external USB device. The recorders can be equipped with up to 3 HDDs. Suitable Apps for iPhones and Android smartphones are available.

Technical specifications

Part number	SanStore-4MMX	SanStore-8MMX	SanStore-16MMX
Type	Digital video recorder, pentaplex	Digital video recorder, pentaplex	Digital video recorder, pentaplex
Video inputs	4 x BNC 1Vpp	8 x BNC 1Vpp	16 x BNC 1Vpp
Video outputs	4 x BNC 1Vpp	8 x BNC 1Vpp	16 x BNC 1Vpp
Audio inputs	4 x Cinch	8 x Cinch	16 x Cinch
Audio outputs	1 x Cinch	1 x Cinch	1 x Cinch
Alarm inputs	4	8	16
Alarm outputs	4	4	4
HDD capacity (internal)	1 TB	1 TB	1 TB
Max. HDD capacity	6 TB	6 TB	6 TB
Max. number of HDDs (internal)	3 x S-ATA	3 x S-ATA	3 x S-ATA
External HDD possible	through eSATA / USB	through eSATA / USB	through eSATA / USB
RS-485 interface	Yes	Yes	Yes
USB interface	USB 2.0	USB 2.0	USB 2.0
USB ports	1 x Front, 1 x Backside	1 x Front, 1 x Backside	1 x Front, 1 x Backside
Monitor outputs	1 x BNC 1Vss, 1 x VGA, 1 x HDMI	1 x BNC 1Vss, 1 x VGA, 1 x HDMI	1 x BNC 1Vss, 1 x VGA, 1 x HDMI
Spot monitor outputs	2 x BNC 1Vpp	2 x BNC 1Vpp	4 x BNC 1Vpp
Internal RAID	Yes	Yes	Yes
DVD-RW	Yes	Yes	Yes
Control panels (external)	IR remote control / PC mouse / control keyboard	IR remote control / PC mouse / control keyboard	IR remote control / PC mouse / control keyboard
Number of Ethernet ports	1	1	1
Ethernet speed	10 / 100 / 1000 Mbit	10 / 100 / 1000 Mbit	10 / 100 / 1000 Mbit
Video norm	PAL, NTSC	PAL, NTSC	PAL, NTSC
Compression (video)	H.264	H.264	H.264
Max. resolution	D1 (720 x 576)	D1 (720 x 576)	D1 (720 x 576)
Max. frame rate (fps)	100 at D1 (720 x 576)	100 at D1 (720 x 576) / 400 at 2CIF (720 x 288)	100 at D1 (720 x 576) / 200 at 2CIF (720 x 288)
Picture data export	USB / CD / DVD / Network	USB / CD / DVD / Network	USB / CD / DVD / Network
Noise emission (dB)	67	67	67
Power consumption (watt)	50	50	50
Voltage	230 V AC	230 V AC	230 V AC
Operating temperature (°C)	0 to +40	0 to +40	0 to +40
Dimensions W x H x D (mm)	360 x 110 x 370	360 x 110 x 370	360 x 110 x 370
Weight	6.5 kg without HDD	6.5 kg without HDD	6.5 kg without HDDs

SanStore HMX series

The SanStore HMX-series features high recording speed in H.264 format with 400 fps (real-time) in D1. The recorders have manifold configuration options, an easy-to-use menu interface and comprehensive functions, e.g. smart serach, bookmarks and simultaneous playback and live picture. Via a LAN network, easy and fast data analysis is possible and the data can be stored using the integrated DVD writer or an external USB device. The recorders can be equipped with up to 3 HDDs. Suitable Apps for iPhones and Android smartphones are available.

Technical specifications

Part number	SanStore-8HMX	SanStore-16HMX
Type	Digital video recorder, pentaplex	Digital video recorder, pentaplex
Video inputs	8 x BNC 1Vpp	16 x BNC 1Vpp
Video outputs	8 x BNC 1Vpp	16 x BNC 1Vpp
Audio inputs	8 x Cinch	16 x Cinch
Audio outputs	1 x Cinch	1 x Cinch
Alarm inputs	8	16
Alarm outputs	4	4
HDD capacity (internal)	1 TB	1 TB
Max. HDD capacity	6 TB	6 TB
Max. number of HDDs (internal)	3 x S-ATA	3 x S-ATA
External HDD possible	through eSATA / USB	through eSATA / USB
RS-485 interface	Yes	Yes
USB interface	USB 2.0	USB 2.0
USB ports	1 x Front, 1 x Backside	1 x Front, 1 x Backside
Monitor outputs	1 x BNC 1Vpp, 1 x VGA, 1 x HDMI	1 x BNC 1Vpp, 1 x VGA, 1 x HDMI
Spot monitor outputs	3 x BNC 1Vpp	3 x BNC 1Vpp
Internal RAID	Yes	Yes
DVD-RW	Yes	Yes
Control panels (external)	IR remote control / PC mouse / control keyboard	IR remote control / PC mouse / control keyboard
Number of Ethernet ports	2	2
Ethernet speed	10 / 100 / 1000 Mbit	10 / 100 / 1000 Mbit
Video norm	PAL, NTSC	PAL, NTSC
Compression (video)	H.264	H.264
Max. resolution	D1 (720 x 576)	D1 (720 x 576)
Max. frame rate (fps)	200 at D1 (720 x 576) / 200 at 2CIF (720 x 288)	400 at D1 (720 x 576) / 400 at 2CIF (720 x 288)
Picture data export	USB / CD / DVD / Network	USB / CD / DVD / Network
Noise emission (dB)	67	67
Power consumption (watt)	50	50
Voltage	230 V AC	230 V AC
Operating temperature (°C)	0 to +40	0 to +40
Dimensions W x H x D (mm)	430 x 100 x 450	430 x 100 x 450
Weight	7.9 kg without HDDs	7.9 kg without HDDs

SanStore accessories

Technical specifications

Part number	KSC-3505	HDD-1000S	SanStore-RA-LMX	SanStore-19ER
Type	Keyboard	Hard drives	Rack-Mount Adapter 19"	19" bracket
Max. HDD capacity	—	1 TB	—	—
Interface	RS-485 interface	S-ATA II	—	—
Dimensions W x H x D (mm)	390 x 95 x 190	3.5" housing	—	435 x 125 x 470
Specials	Pelco D/P and more	24/7 tested; only with first delivery	for SanStore-LMX DVR	for SanStore DVR

Notes

1. Additional storage extensions and storage options for SanStore recorders: See chapter “Storage” on page 70.
2. All SanStore recorders come with a 1 TB HDD.

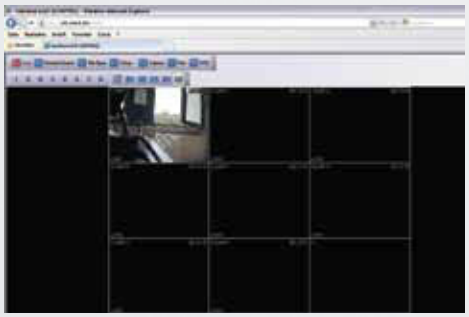
SanStore-EMS

Technical specifications

Part number	SanStore-EMS	SanStore-PC-EMS
Type	Video management software	EMS server incl. SanStore EMS software
Number of supported recorder	max. 300	—
Supported brands	SANTEC SanStore recorder	—
Multi-screen display	Yes	—
User management	Yes	—
PTZ control	Yes	—

SanStore recorder: Technology

The SanStore digital recorders have manifold functions and a state-of-the-art user interface:



Web interface:
Without difficulty, the new and modern web interface allows to access all recorder functions via the Internet explorer.
- Menu access
- Archive search
- PTZ control, etc.

Dual-stream:
Video/audio streaming with configurable quality. This option is independent of the recorder configuration (e.g. recording settings).

iPhone & Android App:
The recorders can be accessed using iPhone apps or Android smartphones.

MobileCMS
SanStore MobileCMS is available in the appropriate stores.

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NUUO software: Technology

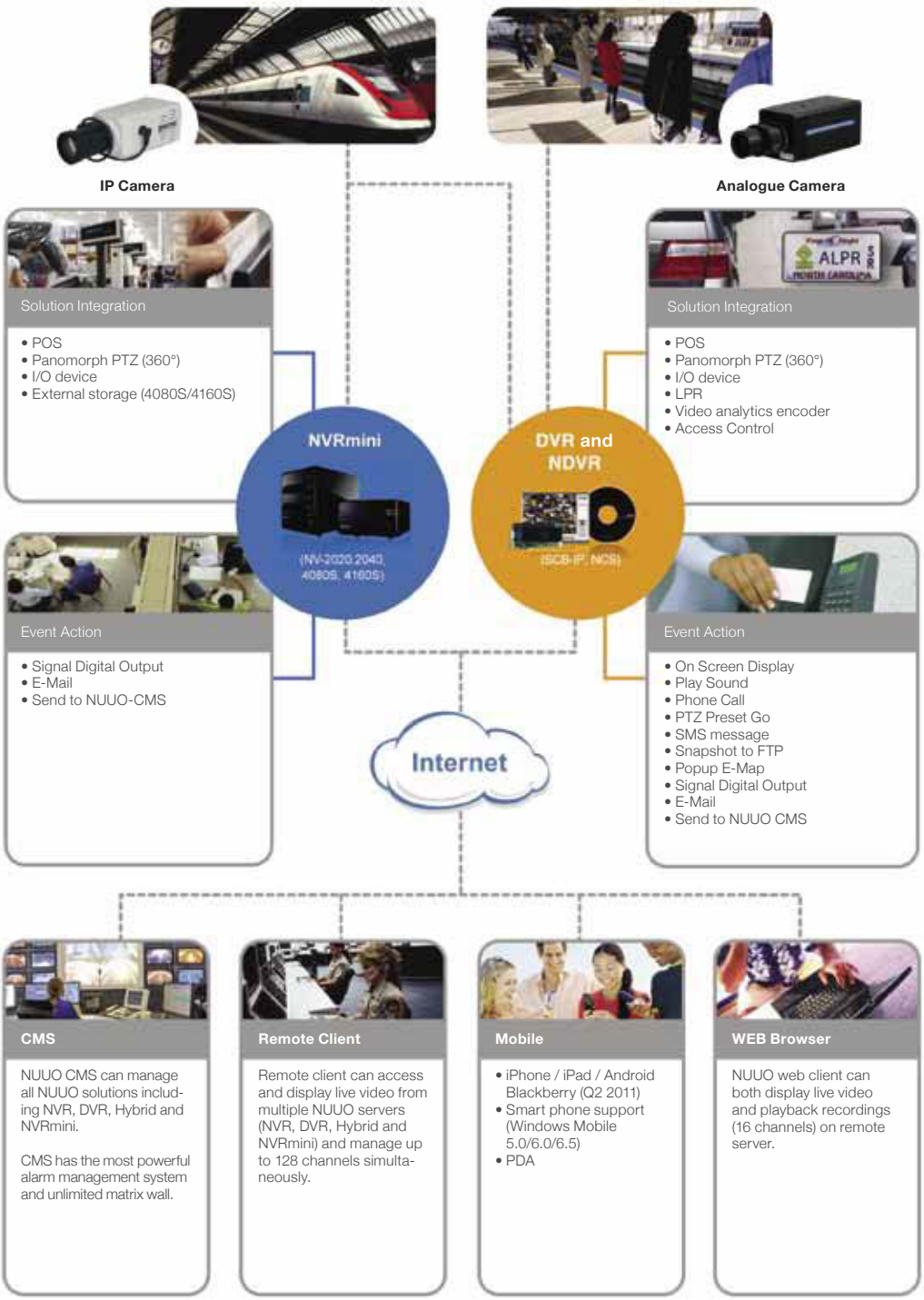
NUUO surveillance solutions are easy to use and scalable. They offer surveillance and analysis functionality for all kinds of situations.

First of all, there is the NVRMini which has been developed for small surveillance areas. Then there are the high-performance IP and hybrid recorders. And finally, the extendible CMS system is appropriate for larger surveillance projects.

All NUUO systems are equipped with the same user interface so there is only little time required to get familiar with each of the systems. One of the key functions of all NUUO systems is the recognition and processing of events, i.e. motion detection, missing or foreign objects, manipulation detection. The NUUO system processes these events and sends a notification in 10 different ways (e.g. by e-mail, SMS, call, etc).

All functions can be controlled and analysed locally as well as from remote, irrespective of the fact whether analogue or digital technology is used. NUUO merges these two standards into one overall surveillance system.

NUUO complete solutions


IP Camera
Analogue Camera
Solution Integration
• POS
• Panomorph PTZ (360°)
• I/O device
• External storage (4080S/4160S)
Solution Integration
• POS
• Panomorph PTZ (360°)
• I/O device
• LPR
• Video analytics encoder
• Access Control
NVRmini
DVR and NDVR
Event Action
• Signal Digital Output
• E-Mail
• Send to NUUO-CMS
Event Action
• On Screen Display
• Play Sound
• Phone Call
• PTZ Preset Go
• SMS message
• Snapshot to FTP
• Popup E-Map
• Signal Digital Output
• E-Mail
• Send to NUUO CMS
Internet
CMS
NUUO CMS can manage all NUUO solutions including NVR, DVR, Hybrid and NVRmini.
CMS has the most powerful alarm management system and unlimited matrix wall.
Remote Client
Remote client can access and display live video from multiple NUUO servers (NVR, DVR, Hybrid and NVRmini) and manage up to 128 channels simultaneously.
Mobile
• iPhone / iPad / Android Blackberry (Q2 2011)
• Smart phone support (Windows Mobile 5.0/6.0/6.5)
• PDA
WEB Browser
NUUO web client can both display live video and playback recordings (16 channels) on remote server.

NUUO Video management software

The NUUO software can be used as a stand-alone solution to process up to 64 cameras and up to 3 monitors at the same time. Moreover, the software provides intelligent detection modes, instant event notifi cation, PTZ control and a graphical, easy-to-use user interface. It is possible to access recordings and live views in many different ways, e.g. by the viewer tool (included in the delivery) which can be installed on remote stations. Every NUUO recorder contains a web interface for easy remote access. Apart from e-map which, at any time, displays an existing alarm onto a map, NUUO signs every video and picture with a watermark.

Technical specifications

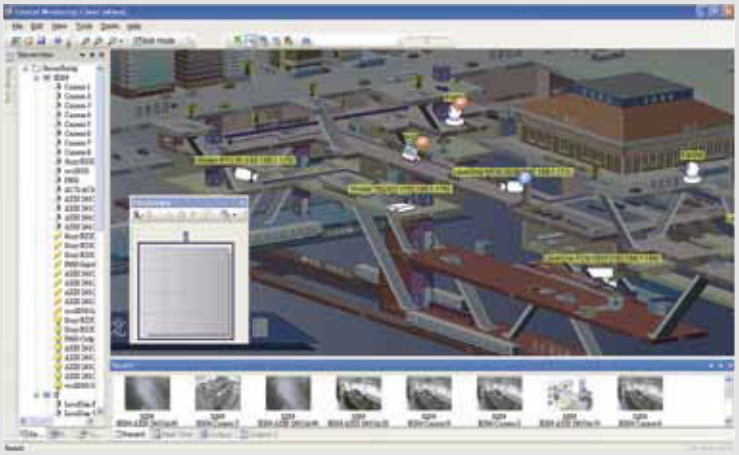
Part number	Description
SCB-IP-P01	1-channel PC-based NUUO video management software
SCB-IP-P04	4-channel PC-based NUUO video management software
SCB-IP-P08	8-channel PC-based NUUO video management software
SCB-IP-P12	12-channel PC-based NUUO video management software
SCB-IP-P16	16-channel PC-based NUUO video management software
SCB-IP-P25	25-channel PC-based NUUO video management software
SCB-IP-P32	32-channel PC-based NUUO video management software
SCB-IP-P36	36-channel PC-based NUUO video management software
SCB-IP-P64	64-channel PC-based NUUO video management software

Note

We also offer pre-configured systems which already have the SCB-IP software installed (NVR and NDVR; see page 67).

NUUO Central Management Software (CMS)

The NUUO central management system is able to administer an unlimited number of analogue and IP cameras. The software analyses all data provided by the respective NUUO servers. The CMS receives the alarm and displays it on the corresponding fl oor plan or map which may be unlimitedly deep. You can also use the CMS to create unlimited matrixes or to access any camera at any site or to access archive data or alarm history data. Remote access to the video servers is possible, too. Furthermore, the CMS monitors the status of each camera and each NUUO NVR device.



Technical specifications

Part number	Description
NCS-Base	CMS Basis licence incl. 48 cameras, 8 I/O connections
NCS-CN-CAM	CMS extension licence 1 camera analogue/IP
NCS-CN-IO	CMS extension licence 1 I/O connection
NCS-CN-POS	CMS extension licence 1 POS

Note

We also offer pre-configured systems which already have the NCS-Base software installed (see page 69).

NUUO network recorder (NVR-Mini)

The NUUO NVR-Minis are all-in-one network recorders which are capable of administering up to 16 IP cameras.

Data recording is done onto the RAID which may contain 2–4 HDDs. Live view, archiving and administration is done via the web browser and hence accessible all over the world.

NUUO NVR-Mini 20 series

NUUO NVR-Mini 40 series

Technical specifications

Specifications	
Type	Network videorecorder
IP Channels (act./ext.)	Up to 16 chanels (depending on model)
HDD capacity (internal)	Up to 4 TB (depending on model)
External HDD possible	Yes (only NV-40 series)
Ventilation	Fan
Internal RAID	Yes
Number of Ethernet ports	1
Compression (video)	MPEG-4 / H.264 / MJPEG / MxPEG
Max. frame rate (fps)	max. 200 at D1 (depending on model)
Motion recording	Yes
Permanent recording	Yes
Schedule recording	Yes
Mega pixel camera support	Yes
Motion detection	Yes
Lost signal detection	Yes
Watermark	Yes
Intelligent search	Yes
Password protection	Yes
Log files	Yes
DynDNS support	Yes
UPNP support	Yes
Preset positions	unlimited
PTZ control	Yes
Menu languages	14 Langauges
Remote access	Browser / Software

Part number	Description
NV-2020-EU	2-channel Linux-based NVR, 100 fps at D1 resolution
NV-2020-EU-1000	2-channel Linux-based NVR incl. 1 TB HDD, 100 fps at D1 resolution
NV-MINI-UP-02	Update for NV-2020 to 4 cameras
NV-2040-EU	4-channel Linux-based NVR, 100 fps at D1 resolution
NV-2040-EU-1000	4-channel Linux-based NVR incl. 1 TB HDD, 100 fps at D1 resolution
NV-4080S-EU	8-channel Linux-based NVR, 200 fps at D1 resolution
NV-4080S-EU-1000	8-channel Linux-based NVR incl. 1 TB HDD, 200 fps at D1 resolution
NV-4160S-EU	16-channel Linux-based NVR, 200 fps at D1 resolution
NV-4160S-EU-1000	16-channel Linux-based NVR incl. 1 TB HDD, 200 fps at D1 resolution

NUUO network recorder (NVR)

NUUO digital recorders contain a powerful hardware which has been designed for up to 32 channels. The recorders come with the NUUO video management software SCB-IP+.

NUUO NVR M series (Mini ITX)

NUUO NVR D series (Desktop)

NUUO NVR P series (19")

Technical specifications

Specifications	
Type	Network digital recorder
Housing type	Depending on model Mini-ITX (M series) | Desktop (D series) | 19" housing (P series)
Housing colour	Black
Housing lockable	only 19" housing
USB ports	2 x Front, 2 x Backside
PC video output	1 x DVI / 1 x HDMI / 1 x VGA (except NUUO-NVR-8M)
Max. monitor outputs	2 or 4 with SG-4DVI (optional)
Redundant power supply	Yes, with NDVRP-REDNT (only P series)
System hard drive	Yes
Standard Video HDD	up to 2 TB (depending on model)
Max. video HDDs	max. 3 x 2 TB (depending on model)
DVD-RW	Yes
Number of Ethernet ports	1
Ethernet speed	10 / 100 / 1000 Mbit
Internal operating system	Microsoft Windows 7
Supported operating system	Microsoft Windows XP to 7
IP video channels (active)	Up to 32 chanels (depending on model)
Total video channels (max.)	32
Mega pixel camera support	Yes
Compression (video)	MJPEG / MPEG-4 / H.264
Watermark	Yes
Vehicle detection	No
Internal RAID	Yes, with NDVRP-RAID1-2TB (only P series)
Internal USV	Yes, with NDVRP-INTUSV (only P series)
Live picture	Yes
Multi-screen display	Yes
Password protection	Yes
Remote connections	Yes
Dimensions W x H x D (mm)	M series (Mini-ITX): 295 x 380 x 195 | D series (Desktop): 425 x 170 x 425 | P Series (19"): 522 x 430 x 176
Weight	M series (Mini-ITX): 5 kg | D series (Desktop): 22 kg | P series (19"): 32 kg

Part number	Description
NUUO-NVR-8M	NUUO 8-channel network recorder Mini-ITX incl. 1TB HDD
NUUO-NVR-8D	NUUO 8-channel network recorder in desktop housing incl. 2TB HDD
NUUO-NVR-16D	NUUO 16-channel network recorder in desktop housing incl. 2TB HDD
NUUO-NVR-8P	NUUO 8-channel network recorder in professional 19" housing incl. 2TB HDD
NUUO-NVR-16P	NUUO 16-channel network recorder in professional 19" housing incl. 2TB HDD
NUUO-NVR-24P	NUUO 24-channel network recorder in professional 19" housing incl. 2TB HDD
NUUO-NVR-32P	NUUO 32-channel network recorder in professional 19" housing incl. 2TB HDD
NDVRP-RAID1-2TB	Internal RAID-1 mirroring with RAID controller and 2 TB memory (only for 19“ P-series and with first delivery)
NDVRP-REDNT	Redundant power supply unit (only for 19“ P-series and with first delivery)
NDVRP-INTUSV	Internal USV for bridging short power outages (only for 19" P-series and with first delivery)

Notes

1. NUUO recorders can be extended to additional IP cameras by using more software licences of SCB-IP+.
2. We recommend a maximum of 32 channels per recorder overall.
3. HDDs and storage systems can be found at pages 70 and 71.
4. Further information can be found at www.santec-video.com.

NUUO digital hybrid video recorder

NUUO hybrid recorders contain a powerful hardware which has been designed for up to 32 channels. The recorders come with the NUUO video management software SCB-IP+.

NUUO NDVR D series (Desktop)

NUUO NDVR P series (19")

Technical specifications

Specifications	
Type	Hybrid digital recorder
Housing type	Desktop (D series) | 19" housing (P series)
Housing colour	Black
Housing lockable	No
USB ports	2 x Front, 2 x Backside
PC video output	1 x HDMI / 1 x DVI / 1 x VGA
Max. monitor outputs	2 or 4 with SG-4DVI (optional)
Redundant power supply	Yes, with NDVRP-REDNT
System hard drive	Yes
Standard Video HDD	2 TB
Max. video HDDs	3 x 2 TB
DVD-RW	Yes
Number of Ethernet ports	1
Ethernet speed	10 / 100 / 1000 Mbit
Internal operating system	Microsoft Windows 7
Supported operating system	Microsoft Windows XP to 7
Video inputs	32 Channel (BNC)
Video norm	PAL, NTSC
Real-time recording	Yes
Max. frame rate (fps)	800 at D1 (720 x 576)
IP video channels (active)	0
Total video channels (max.)	32
Max. picture processing	n.a.
Mega pixel camera support	Yes
Watermark	Yes
Vehicle detection	No
S.M.A.R.T	Yes
Internal web interface	Yes
Live pop-up window	Yes
User management	Yes
Password protection	Yes
Dimensions W x H x D (mm)	D series (Desktop): 425 x 170 x 425 | P series (19"): 522 x 430 x 176
Weight	D series (Desktop): 22 kg | P series (19"): 32 kg

Part number	Description
NUUO-NDVR-8D	NUUO 8-channel hybrid video recorder in desktop housing incl. 2TB HDD
NUUO-NDVR-16D	NUUO 16-channel hybrid video recorder in desktop housing incl. 2TB HDD
NUUO-NDVR-8P	NUUO 8-channel hybrid video recorder in professional 19" housing incl. 2TB HDD
NUUO-NDVR-16P	NUUO 16-channel hybrid video recorder in professional 19" housing incl. 2TB HDD
NUUO-NDVR-24P	NUUO 24-channel hybrid video recorder in professional 19" housing incl. 2TB HDD
NUUO-NDVR-32P	NUUO 32-channel hybrid video recorder in professional 19" housing incl. 2TB HDD
NDVRP-RAID1-2TB	Internal RAID-1 mirroring with RAID controller and 2 TB memory (only for 19“ P-series and with first delivery)
NDVRP-REDNT	Redundant power supply unit (only for 19“ P-series and with first delivery)
NDVRP-INTUSV	Internal USV for bridging short power outages (only for 19“ P-series and with first delivery)

Notes

1. NUUO recorders can be extended to additional IP cameras by using more software licences of SCB-IP+.
2. We recommend a maximum of 32 channels per recorder overall.
3. HDDs and storage systems can be found at pages 70 and 71.
4. Further information can be found at www.santec-video.com.

NUUO remote PCs and CMS

Technical specifications

Part number	NUUO-RPCD-1	NUUO-RPCD-2	NUUO-CMSP	NUUO-RPCD-CMS
Type	Remote PC	Remote PC	CMS Server	Remote PC
Housing type	Desktop	Desktop	19" Server housing	Desktop
Housing lockable	No	No	Yes	No
USB interface	USB 1.1 / 2.0	USB 1.1 / 2.0	USB 1.1 / 2.0	USB 1.1 / 2.0
PC video output	1 x HDMI / 1 x DVI / 1 x VGA	2 x HDMI / 2 x DVI / 2 x VGA	1 x HDMI / 1 x DVI / 1 x VGA	1 x HDMI / 1 x DVI / 1 x VGA
Max. monitor outputs	2	4	2	2
Redundant power supply	No	No	Yes, with NDVRP-REDNT	No
System hard drive	Yes	Yes	Yes	Yes
DVD-RW	Yes	Yes	Yes	Yes
Number of Ethernet ports	1	1	1	1
Ethernet speed	10 / 100 / 1000 Mbit	10 / 100 / 1000 Mbit	10 / 100 / 1000 Mbit	10 / 100 / 1000 Mbit
Internal operating system	Microsoft Windows 7	Microsoft Windows 7	Microsoft Windows 7	Microsoft Windows 7
Dimensions W x H x D (mm)	425 x 120 x 425	425 x 120 x 425	522 x 430 x 176	425 x 120 x 425
Weight	22 kg	22 kg	22 kg	22 kg

Note

The software required to access the recorders is already pre-installed on the remote PCs and the CMS servers.

NUUO accessories

Technical specifications

Part number	SCB-C24	SCB-C26	SCB-C28	SCB-C08
Type	Digital output	Digital input	Digital input/output	USB-RS485 converter
Digital inputs	—	—	4 digital input channel	—
Digital outputs	16 Digital outputs	16 digital input channels with counter	4 digital output channel	—
RS-485 interface	Yes, 1x	Yes	Yes	Yes
Relay type	—	—	2xForm A(R1,R2), 2xForm C(R3, R4)	—
RS-232 signal	—	—	—	5 Full-duplex (TXD, RXD, CTS, RTS, GND)
RS-422 signal	—	—	—	4 Half-duplex wires (TX+, RX+, TX–, RX–)
RS-485 signal	—	—	—	2 Half-duplex wires (D+, D–)
Transmission distance	up to 1200 m	up to 1200 m	500 m	up to 1200 m
LEDs	Power on, all output channels	Power on, all input channels	Power on, all input channels	Power On, TX, RX
Power via USB	—	—	—	Yes
Watchdog	Host status	Host operating status	Host Status	—
Power supply	Screw terminal or external DC adapter	Screw terminal or external DC adapter	Screw terminal or external DC adapter	—
Power consumption (watt)	1.5	1.5	2.7	1.2
Dimensions W x H x D (mm)	151 x 75 x 26	151 x 75 x 26	151 x 75 x 26	151 x 75 x 26

Note

1. SCB-C08 is required for devices SCB-C24, SCB-C26 and SCB-C28.
2. The NUUO systems can be expanded by a POS box (SCB-C31) to included cash point data.

Storage extension for digital recorder

Technical specifications

Part number	HDD-1000S	HDD-2000S	SanExStor-0404	SanExStor-0408
Type	Hard drives	Hard drives	Multi-Interface RAID storage	Multi-Interface RAID storage
HDD capacity (internal)	1 TB	2 TB	4 TB	8 TB
Internal RAID	No	No	RAID-5	RAID-5
Interface	SATA-II	SATA-II	SATA-II 3Gb	SATA-II 3Gb
Host interface	–	–	FW800, FW400, USB2.0, eSATA	FW800, FW400, USB2.0, eSATA
Power supply	–	–	150 W Zero Noise	150 W Zero Noise
Fan	–	–	Hot-swap fan module	Hot-swap fan module
Supported OS	–	–	Mac OSX, Windows Vista, 7	Mac OSX, Windows Vista, 7
Rack mount (U)	–	–	1	1
Weight	–	–	6.58 kg	6.58 kg
Dimensions W x H x D (mm)	3.5" housing	3.5" housing	273 x 215 x 152	273 x 215 x 152
Specials	24/7 tested; only with first delivery	24/7 tested; only with first delivery	–	–

SanExStor: Technology

SanExStor devices are the ideal extension for all recorders. Due to standard connections, e.g. USB, FireWire, eSATA and RAID support, your video data is safe.

SANTEC SanExStor is a multi-interface storage system built into a high-quality aluminium rack. This rack stands out due to its dual-membrane design. It has a particularly high level of thermal efficiency and – at the same time – reduces HHD and fan noises.

A dedicated hardware RAID processor reduces expenses caused by a HDD failure because it provides a restore mode (i.e. if a HDD fails, the other ones take over). Thanks to RAID-5, a very high security level is guaranteed for your stored data.

Four hot-swap SATA-HDDs enable fast replacement and capacity extension “on the fly”.

The devices have several state-of-the-art connection options, such as eSATA ports or a FireWire interface.

SANTEC SanExStor has been designed for small and mid-size systems.

High level of security
(RAID-5, intelligent design)

PIVOT3 storage and virtual computing

Technical specifications

Part number	PV3-Minibank-4TB | PV3-Minibank-8TB	PV3-Cloudbank-12TB | PV3-Cloudbank-24TB
Processor	Intel Nehalem ES500-Series	2 x Intel Nehalem ES500-Series
Main Memory	6 GB DDR 1333 ECC R-DIM	12 GB DDR 1333 ECC R-DIM
Harddrives	4 x Enterprise SATA II 3,0 Gbit/s	24 x Enterprise SATA II 3,0 Gbit/s
iSCSI	2 x Gigabit Ethernet	2 x Gigabit Ethernet
HDD capacity (internal)	4 TB | 8 TB	12 TB | 24 TB
Hot-swap capable	Yes	Yes
Number of Ethernet ports	2 x GB Ethernet	2 x GB Ethernet
Management	Integrated IPMI2.0 with Dedicated LAN	Integrated IPMI2.0 with Dedicated LAN
Cooling	Yes	Yes
Operating temperature (°C)	+10 to +35	+10 to +35
Rel. humidity (%)	10–90 Non-cond.	10–90 Non-cond.
Dimensions W x H x D (mm)	437 x 43 x 650	437 x 89 x 650
Weight (kg)	16.4	16.4
Fan	4 x 45-mm	4 x 45-mm
Design	1 U	2 U

Note

Depending on the model and the design of the relevant Pivot3 storage solution, it may be necessary to additionally order Windows 2003-32Bit server licences and the Raige Director (PV3-RAIGE-DIRECTOR). Please contact us for assistance.

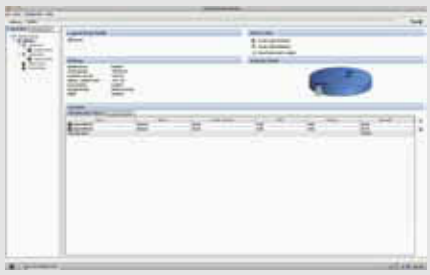
Pivot3 concept: Description

With increasing requirements for video surveillance, i.e. more and more cameras with increased resolution need to be recorded at increased derivative times, leads to a growing demand for reliable and optimised storage systems.

The Pivot2 MiniBanks and CloudBanks meet the requirements for availability, bandwidth, capacity and reliability by a distributed system which you can dynamically expand over time.

No matter if used for a small system with 30 days of video data and 24 TB memory or if used for a large-scale project with 1,200 cameras and 500 TB memory: With Pivot3 systems, it is possible to reliably store and administer data and – at the same time – reduce expenses for power and cooling.

RAIGE operating system
The Pivot3 RAIGE operating system (RAIGE OS) runs on every Pivot3 device. This operating system comprises a “logical volume management“ to protect the data and to automatically distribute it across all devices. This ensures easy-to-handle administration, high availability and high performance.



Logical volume management
The operating system provides a virtualisation of physical data storage media and devices in an array. Hence the capacity is logically administered and cannot be interrupted by physical hardware failures.

Pivot3 devices are recognised by the “RAIGE director software“ and are listed in the RAIGE domain. Physical devices in the same local subnet can be selected and assigned to one or several Pivot3 arrays. Several Pivot3 arrays can be administered by using a “RAIGE director software“ entity.

Video sensor DMD-4: Technology

The digital video sensor DMD-4 offers an ideal solution for a fully automatic and continuous surveillance of a video scene. When securing buildings, outdoor facilities or access ramps, the DMD-4 detects potential dangers at an early stage and notifies the user. Due to its versatile functions, the DMD-4 has specially been designed for security-critical outdoor areas. Because of circumstances caused by the weather, these applications impose a high level of requirements on the sensor's security of triggering an alarm. The DMD-4 captures the moving objects in the picture and tracks them continuously. You can configure the DMD-4 by a user-friendly PC programme: Each of the four customisable alarm areas has an extensive adjustment options, e.g. sensitivity, object size, perspective or alarm duration. By adding specific filter functions, false alarms caused by the weather are avoided. The PC configuration programme checks the sensor's functionality by transmitting analysis pictures of the sensor.

Video sensors

Technical specifications

Part number	DMD-4
Type	Video sensor
Specials	4 video inputs, 4 alarm outputs, 4 alarm inputs, RS-232, RS-485, LAN interface

Via-Sys video sensors

Intruder Detection

Perimeter protection

Alarming

The Via-Sys software extends a video surveillance system by a high-quality video analyses. The software includes functions such as outdoor motion detection, direction-dependent motion detection, electronic fence, sabotage detection and 3D video object size detection.

The software is available as plug-in for Axis cameras and several IQeye cameras. The server plug-in enables data analysis on an existing recorder, e.g. a SanGuard system, without needing to install additional expensive hardware. Via-Sys video analysis software is available at a reasonable price. It is reliable and easy to install. It has already been used in more than 10,000 installations.

Video sensors

Technical specifications

Part number	VS-AXIS-PI	VS-IQEYE-PI	VS-SERVER-PI
Type	Via-Sys Axis plug-in	Via-Sys IQeye plug-in	Via-Sys server plug-in

Quads & Accessories

Technical specifications

Part number	SQV-80	RC-5002	SQV-R-1	SQV-R-2
Type	Colour Quad Processor	Cable Remote Control	19" rack adapter	19" rack adapter
Video inputs	4 x BNC 1Vpp with loop through	—	—	—
Video outputs	2 x BNC (Mon/VCR)	—	—	—
Alarm inputs	4	—	—	—
Voltage	12 V DC using external Power Supply	—	—	—
Dimensions W x H x D (mm)	215 x 200 x 44	—	—	—
Specials	—	for SQV-80, incl. 9 m cable	19" rack adapter for 1 x SQV-80	19" rack adapter for 2 x SQV-80

Distributor / Amplifier

Technical specifications

Part number	VVS-104	VVS-204	VVS-816	VVS-1632
Type	Video Distribution Amplifier	Video Distribution Amplifier	Video Distribution Amplifier	Video Distribution Amplifier
Video inputs	1 x BNC 1Vpp	2 x BNC 1Vpp	2 (4,8) BNC 1Vpp	16 x BNC 1Vpp
Video outputs	4 x BNC 1Vpp	8 x BNC 1Vpp	2 x 8 (4 x 4, 8 x 2) BNC 1 Vss	32 x BNC 1Vpp
Splitter	1 to 4	1 to 8 / 2 to 4	2 x 8 (4 x 4, 8 x 2)	4 x 8 (8 x 4, 16 x 2) BNC 1Vpp
Voltage	230 V AC	230 V AC	230 V AC	230 V AC
Dimensions W x H x D (mm)	216 x 44 x 240	216 x 44 x 240	432 x 44 x 240	432 x 44 x 240
Specials	—	—	incl. 192 brackets	incl. 19" brackets

Distributor / Amplifier

Technical specifications

Part number	VVS-3264	VEV-101	VKS-2100S/V	VPT-80
Type	Video Distribution Amplifier	Video Amplifier	Single cable coax Transceiver/Receiver	Isolation transformer, passive
Video inputs	8 (16 / 32) BNC 1Vpp	1 x BNC 1Vpp	1 x BNC 1Vpp	1 x BNC 1Vpp
Video outputs	8 x 8 (16 x 4, 32 x 2)	1 x BNC 1Vpp	1 x BNC 1Vpp	1 x BNC 1Vpp
Splitter	8 x 1 to 8 (16 x 4, 32x2)	No	No	No
Voltage	230 V AC	230 V AC	15–27 V DC; incl. power supply	No
Dimensions W x H x D (mm)	432 x 88 x 240	216 x 44 x 240	55 x 85 x 20	26 x 28 x 70
Specials	incl. 19" brackets	Adjustable signal strength	Video / Audio and Voltage using coax line	—

Twisted pair system technology

This twisted pair system technology is compatible with SANTEC cameras VTC-274PWDU, VTC-280IRPWDU and VTC-HDH444PWDU. Video data and voltage can be transmitted at the same time.

Technical specifications

Part number	VTUD-1	VEZ-4SYS	VEZ-16SYS
Type	Videobalun, passive	active 4 Ch-Twisted pair receiver	active 16 Ch-Twisted pair receiver
Video inputs	1 x Twisted pair (RJ-45 connector)	4 x Twisted pair (RJ-45 connector)	16 x Twisted pair (RJ-45 connector)
Video outputs	1 x BNC	4 x BNC 1 Vpp	16 x BNC 1 Vpp
Max. cable lenght twisted pair (m)	up to 100	up to 200	up to 200
Transmissionr of	Video, Power (24 V AC), Data	Video, Power (24 V AC), Data	Video, Power (24 V AC), Data
Voltage	—	24 V AC	24 V AC
Dimensions W x H x D (mm)	18 x 18 x 47	160 x 50 x 145	460 x 50 x 145

Note

We recommend power supply units VCA-24V8A-SYS, VCA-200 or VCA-24VAC (see page 83).

Twisted pair system technology for CCTV cameras

Technical specifications

Part number	VTC-8322WDPU	VTC-274PWDU	VTC-280IRPWDU	VTC-HDH444IRPWDU
Type	Day/night box camera	Colour dome camera	Day/night compact camera	Day/night dome camera, vandal-proof
Horizontal resolution (TVL)	650 (colour) / 650 (b/w)	650 (colour) / 650 (b/w)	650 (colour) / 650 (b/w)	650 (colour) / 650 (b/w)
UTP (twisted pair)	Yes, screw terminal	Yes	Yes	Yes
IR range (m)	—	—	up to 40	up to 20
Voltage	12 V DC / 24 V AC	12 V DC / 24 V AC	12 V DC / 24 V AC	12 V DC / 24 V AC
Specials	RJ-45 system connector	RJ-45 system connector	RJ-45 system connector	RJ-45 system connector

Twisted pair: Technology

The CCTV cameras of the U-series (also see page 23) and the twisted pair receivers (VEZ-4SYS and VEZ-16SYS) are able to simultaneously transmit video data, power and telemetry using a CAT5 network cable. They are RJ-45 plug-compatible.

All cameras are equipped with RJ-45 connector.

Twisted pair / Coax transmission technology

Technical specifications

Part number	M-500 | M-500-10	M-509 | M-509-10	VSZ-1000	VEZ-1000
Type	Videobalun, passive	Videobalun, passive	Twisted pair transmitter, active	Twisted pair receiver, active
Video input/output	1 x BNC 1Vpp	1 x BNC 1Vpp	Input 1 x BNC 1Vpp	Output 1 x BNC-1Vpp
Twistet pair input/output	1 x RJ-45 connector	1 x Screw terminal	1 x Screw terminal (output)	1 x Screw terminal (Input)
Max. cable lenght twisted pair (m)	750	750	up to 1000	up to 1000
Transmissionr of	Video	Video	Video	Video
Voltage	—	—	12 V DC	12 V DC
Dimensions W x H x D (mm)	44 x 19 x 26	58 x 16 x 16	18 x 18 x 47	18 x 18 x 47

Twisted pair / Coax transmission technology

Technical specifications

Part number	VSZ-STM	VEZ-STMK	VSZ-AK230
Type	Twisted pair transmitter, active	Twisted pair receiver, active	Twisted pair transmitter, active
Video input/output	Input BNC 1Vpp	Output 1 x BNC 1Vpp	1 x Screw terminal 1Vpp
Twistet pair input/output	1 x Screw terminal (Ouput)	1 x Screw terminal (Input)	1 x Screw terminal
Max. cable lenght twisted pair (m)	up to 900	up to 900	up to 1000
Transmissionr of	Video	Video	Video
Voltage	12 V DC / 24 V AC	12 V DC / 24 V AC	230 V AC
Dimensions W x H x D (mm)	25 x 25 x 65	25 x 25 x 65	106 x 56 x 100

PoE midspan

Technical specifications

Part number	SanPower-MS04H	SanPower-MS08	SanPower-MS16	SanPower-MS24
Type	PoE midspan	PoE midspan	PoE midspan	PoE midspan
Number of Ethernet ports	5	8	16	24
Ethernet standards	10Base-T / 100Base-TX / 1000Base-TX	10Base-T / 100Base-TX / 1000Base-TX	10Base-T / 100Base-TX / 1000Base-TX	10Base-T / 100Base-TX / 1000Base-TX
Ethernet connector	RJ-45	RJ-45	RJ-45	RJ-45
PoE capacity	15.4 W per Port	15.4 W per port	15.4 W per port	15.4 W per port
PoE max. power consumption	77 W	125 W	250 W	370 W
PoE standard	IEEE 802.3at	IEEE 802.3af	IEEE 802.3af	IEEE 802.3af
Supported protocols	—	SNMP	SNMP	SNMP
LEDs	Power, Fault	Power, Fault	Power, Fault	Power, Fault
USB ports	0	1	1	1
Voltage	36–57 V DC	100–240 V AC	100–240 V AC	100–240 V AC
Fan	No	Yes	Yes	Yes
Design	Desktop	19" Rackmount	19" Rackmount	19" Rackmount
Rack mount (U)	—	1	1	1
Dimensions W x H x D (mm)	174 x 154 x 38.15	438 x 228 x 44.5	438 x 228 x 44.5	438 x 228 x 44.5
Weight	900 g	3.8 kg	3.8 kg	3.8 kg

Note

Midspans extend switches with PoE. Hereby, the midspan is only responsible for administering the energy. By separating energy and data, you will get optimum security for your network.

Network switches

Technical specifications

Part number	SanSwitch-M0404	SanSwitch-G0800	SanSwitch-G1604	SanSwitch-G2404
Type	PoE Switch	Gigabit Switch	Gigabit Switch	Gigabit Switch
Number of Ethernet ports	8	8	16 + 4 SFP	24 + 4 SFP
Ethernet standards	10Base-T / 100Base-TX	10Base-T / 100Base-TX / 1000Base-TX	10Base-T / 100Base-TX / 1000Base-TX	10Base-T / 100Base-TX / 1000Base-TX
Ethernet connector	RJ-45	RJ-45	RJ-45	RJ-45
Power over Ethernet (PoE)	Yes, 4 Ports	No	No	No
Supported protocols	—	QoS, VLAN, NWAY, SNMP	QoS, VLAN, NWAY, SNMP	QoS, VLAN, NWAY, SNMP
VLAN	No	Yes	Yes	Yes
QoS (quality of service)	No	Yes	Yes	Yes
MAC address memory (KB)	1024	8192	8192	8192
MAC address update	auto	auto	auto	auto
Integrated web interface	No	Yes	Yes	Yes
RS-232 interface	No	Yes	Yes	Yes
Power consumption (watt)	68	8	13.2	13.2
Fan	No	No	Yes	Yes
Design	Desktop	Desktop	19" Rackmount	19" Rackmount
Rack mount (U)	1	1	1	1

Network accessories

Technical specifications

Part number	SanPower-MS01	SanPoE-30I	SanPoE-15S	SanPoE-30S
Type	PoE midspan	High PoE midspan	PoE splitter	High PoE Splitter
Number of Ethernet ports	1	1	1	1
Ethernet connector	RJ-45	RJ-45	RJ-45	RJ-45
Ethernet standards	10Base-T / 100Base-TX / 1000Base-TX	10Base-T / 100Base-TX / 1000Base-TX	10Base-T / 100Base-TX / 1000Base-TX	10Base-T / 100Base-TX / 1000Base-TX
PoE capacity (watt)	max. 15.4	max. 60	—	—
PoE standard	IEEE 802.3af	IEEE 802.3af	IEEE 802.3af	IEEE 802.3af / at
Output power (watt)	—	—	max. 14	max. 45
LEDs	Power, Fault	Power, Fault	Power, Fault	Power, Fault
Dimensions W x H x D (mm)	140 x 65 x 36	166 x 80 x 40	100 x 56 x 28	156 x 80 x 45
Weight	200 g	400 g	200 g	400 g
Output voltage	48 V DC	56 V DC	12 V DC	12 V DC
Voltage	100–240 V AC	100–240 V AC	via PoE	via PoE

Network accessories

Technical specifications

Part number	SanPoE-60E	PS14P	San-E2D	NETIO-230
Type	LAN & PoE Extender	4-channel PoE switch	VDSL Converter	Remote IP Power
Input voltage	36–57 V DC	48 V DC	5 V	90–240 V DC
Output voltage	12 V DC	12 V DC	—	4 x 220 V DC
Ethernet standards	10Base-T / 100Base-TX	10Base-T / 100Base-TX	10Base-T / 100Base-TX	—
Number of Ethernet ports	5	4	1	1
Interface	—	—	2 x RJ-45, 2 x RJ-11	—
Operating temperature (°C)	0 to +55	–40 to +75	10 to +90	0 to +70
Dimensions W x H x D (mm)	154 x 39 x 174	89 x 76 x 25	120 x 75 x 25	220 x 41 x 120
Weight	900 g	272 g	350 g	900 g
Applications	extends an POE network to 100 m	Industrial switch	Transfer Ethernet signals over VDSL	remote control power for devices over IP

Note

SanPoE-60E requires power supply unit PSC75U-560 or POE60U-560 (available on demand).

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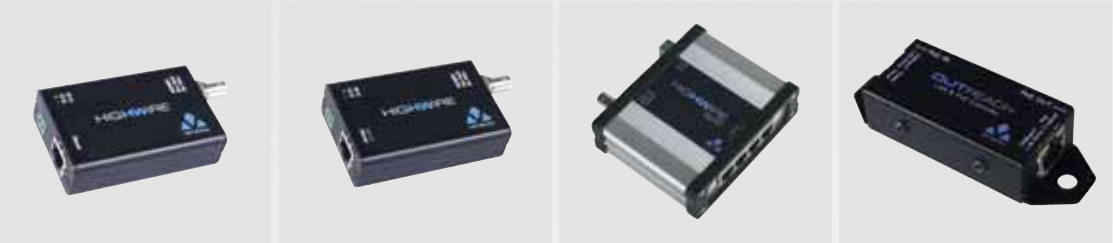
Coax ethernet media converter



Technical specifications

Part number	VHW-HW	VHW-HWPO	VHW-HWQ	VOR-ORM
Type	Media converter	Media converter	Media converter	LAN & POE Extender
No. of Ethernet ports	1	1	4	1
Ethernet standards	10Base-T / 100Base-TX	10Base-T / 100Base-TX	10Base-T / 100Base-TX	10Base-T / 100Base-TX
Ethernet connection	RJ-45	RJ-45	RJ-45	RJ-45
Ethernet speed	10 / 100 Mbit	10 / 100 Mbit	10 / 100 Mbit	10 / 100 Mbit
Video data connection	1 x BNC	1 x BNC	1 x BNC	1 x RJ-45
Power over Ethernet	No	Yes	Yes	Yes
PoE standard	n.a.	IEEE 802.3af	IEEE 802.3af	IEEE 802.3af
Switch option	No	No	Yes	No
Distance RG59 (m)	250	250	250	n.a.
Distance CAT-5 (m)	n.a.	n.a.	n.a.	100
Output voltage	n.a.	1 x 6.5 W (PoE)	4 x 6.5 W (PoE)	1 x 6.5 W (PoE)
Voltage	12 V DC / 24 V AC	12 V DC / 24 V AC	12 V DC / 24 V AC	n.a.
Dimensions W x H x D (mm)	104 x 54 x 24	104 x 54 x 24	107 x 142 x 32	105 x 42 x 20
Weight	110 g	110 g	290 g	105 g
Operating temperature (°C)	–10 to +50	–10 to +50	–10 to +50	–10 to +50

Notes

1. Recommended power supply unit for VHW-HW and VHW-HWPO: VCA-12V-1.5ASA
2. Recommended power supply unit for VHW-HWQ: VCA-12V-2.5AS

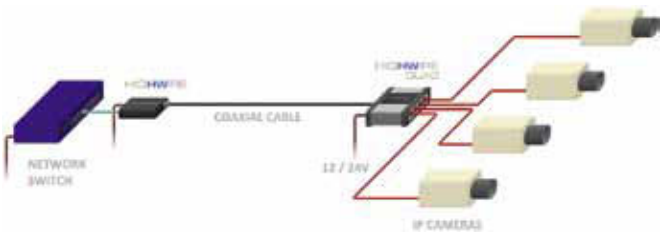
Ethernet coax media converter: Technology

The devices of the VHW series enable the transmission of Ethernet signals of up to 100 MBit via a 75 Ohm RG-59 cable. Herewith you can integrate IP network cameras into an existing coax video infrastructure. This will save you time and money for laying new cables.

Example 1: 2 x VHW-HW

Example 2: 1 x VHW-HW and 1 x VHW-HWPO

Using VHW-HWQ, up to 4 PoE IP cameras can be connected to an existing analogue video cable and common 12 V or 24 V power supplies. Network switching with PoE outputs and signal converting via a RG-59 cable are integrated into a compact and robust unit.



Example 3: 1 x VHW-HW and 1 x VHW-HWO

Using the LAN and PoE extender VOR-ORM, it is possible to extend the unit of up to 100 m of CAT5 connections to IP cameras and other PoE devices, without needing to lay new electronic cables.

Example 4: 1 x VOR-ORM

Analogue radio systems

Technical specifications

Part number	RFS-58-SET	RFSD-232-485
Type	Video transmitter / Receiver Set	Telemetry Transmitter/Receiver Set
Signal transmission	Video, Audio, Dry contact	Date bidirectional
Transmission frequency (GHz)	5.725–5.875	0.86940–0.86965
Transmission mode	analog	analog
Max. range (clear view)	max. 700 m	max. 700 m
Voltage	12 V DC using external Power Supply	12 V DC using external Power Supply

Transmission technology

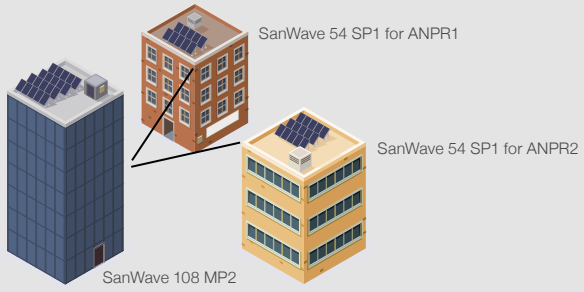
Technical specifications

Part number	SanWave-54-SP-1	SanWave-108-SP-2	SanWave-108-MP-2
Type	WLAN Access Point opimized for Video	WLAN Access Point opimized for Video	WLAN Access Point opimized for Video
Max. range (clear view)	up to 1 km (54 Mbps)	up to 1 km (108 Mbps), 2 km (54 Mbps)	up to 1 km (108 Mbps), 2 km (54 Mbps)
Point Base	Single Point Base Station	Single Point Base Station	Multi Point Base Station
max Satellites supported	1	1	4
Antenna	Vertical polarised 14dBi, 45°	Vertical polarised 14dBi, 45°	Vertical polarised 14dBi, 45°
IEEE Standard	801.1P	801.1P	801.1P
VLAN	802.1Q	802.1Q	802.1Q
PoE standard	IEEE 802.3af	IEEE 802.3af	IEEE 802.3af
Dimensions W x H x D (mm)	110 x 119 x 51	110 x 119 x 51	110 x 119 x 51
Classification	IP-65	IP-65	IP-65

SanWave IP radio system: Technology

Camera connections via copper, fibre optics or leased lines are often difficult, complex and costly. SanWave WLAN lines have been optimised for video transmission. They have a transmission rate of up to 108 Mbps and cover a distance of up to 2 km, providing a constant data flow – even for several CCTV cameras with up to 25 fps.

Application example
SANTEC's wireless solutions can be implemented very fast, no matter if as an interim solution or for permanent CCTV networks.



Fast implementation and easy installation.

SanWave analyzer
SanWave analyzer software is intuitive to use. All SanWave wireless bridges can be configured, checked and adjusted. If required, it is also possible to monitor and to test the link performance.

SanWave can be installed by using plug & play and can be configured by using drag & drop.

Plugs and cables

Technical specifications

Part number	BNC-C-TG/10	BNC-CK-TG/10	BNC-A75-TG/10
Type	Connectors	Connectors	BNC-terminating resistor
Impedance (Ohm)	75	75	75
Bend protection	No	Yes	No
Packing units (pieces)	10	10	10
Suitable for	only for Coax-0.6/100	only for Coax-0.6/100	All BNC-female connector

Plugs and cables

Technical specifications

Part number	BNC-T-TG/5	BNC-V-TG/10	BNC-W-TG/5	CIN-BNC-TG/10
Type	Connectors	Connectors	Connectors	Connectors
Impedance (Ohm)	75	75	75	75
Packing units (pieces)	5	10	5	10

Plugs and cables

Technical specifications

Part number	BNC-CIN-TG/10	BNC-P-Kit	BNC-P/50	RJ-45-STXTG
Type	Connectors	Plier tool kit	Connectors	Connectors
Impedance (Ohm)	75	–	75	–
Packing units (pieces)	10	–	50	1
Suitable for	–	BNC-P/50	BNC-P/Kit	CAT-5 cable and higher
Specials	–	Crimping pliers set for BNC-P	–	No special tools required

Plugs and cables

Technical specifications

Part number	KOAX-MULTI-59/100	KOAX-MULTI-59/250	KOAX-0.6/100
Type	Cable	Cable	Cable
Cable type	Multicable RG-59	Multicable RG-59	Videocable
Cable length (m)	100	250	100
Impedance (Ohm)	75	75	75
Number of cable cores	4 x 0.5 mm	4 x 0.5 mm	No
Specials	Video and Voltage	Video and Voltage	Video

Plugs and cables

Technical specifications

Part number	SDD-VK-10	SDD-VK-30	SDD-ADAPT
Type	System cable	Cable	Connectors
Cable type	Multicable	Multicable	–
Impedance (Ohm)	–	–	75
Suitable for	CCTV Cameras	CCTV Cameras	SDD-VK cable
Cable length (m)	10	30	–
BNC plug pre-installed	mounted on both sides	mounted on both sides	–
Specials	Video and operating voltage	Video and operating voltage	BNC / Power Connectors

Plugs and cables

Technical specifications

Part number	KOAX-BNC-0.5/10	KOAX-BNC-1.0/10	KOAX-BNC-2.0/10
Type	Cable	Cable	Cable
Cable type	Video cable	Video cable	Video cable
Cable length (m)	0,5	1	2
Impedance (Ohm)	75	75	75
BNC plug pre-installed	mounted on both sides	mounted on both sides	mounted on both sides
Packing units (pieces)	10	10	10

Power adapters

Technical specifications

Part number	VCA-12V-1.5ASA	VCA-12V-0.8A	VCA-12V-2.5AS	VCA-12V-5A
Type	Power supply	Power supply	Power supply	Power supply
Input voltage	230 V AC	230 V AC	230 V AC	230 V AC
Output voltage	12 V DC stabilized, max. 1.5 A	12 V DC stabilized, max. 0.8 A	12 V DC stabilized, max. 2.5 A	12 V DC stabilized, max. 5 A
Cable end	Plug with adapter open cable ends	open cable ends	Plug	open cable ends
Housing material	Plug housing, plastic	Desktop version with cable both ends	Desktop version with cable both ends	Desktop version with cable both ends
Dimensions W x H x D (mm)	48 x 33 x 75	65 x 25 x 74	45 x 25 x 110	87 x 50 x 125

Power adapters

Technical specifications

Part number	VCA-12V-5AS-M	VCA-200	VCA-500	VCA-600/A
Type	Power supply	Power supply	Power supply	Power supply
Input voltage	230 V AC	230 V AC	230 V AC	230 V AC
Output voltage	12 V DC stabilized, max. 5 A	24 V AC, max. 2.1 A	24 V AC, max. 5 A	24 V AC, max. 5 A
Cable end	Plug	open cable ends	open cable ends	Screw connection
Housing material	Desktop version with cable both ends	Desktop version with cable both ends	Desktop version with cable both ends	Weather-proof housing (IP-66)
Dimensions W x H x D (mm)	65 x 40 x 120	100 x 65 x 135	110 x 65 x 170	110 x 90 x 210

Power adapters

Technical specifications

Part number	VCA-12V-2A/A	VCA-12V-SA9-i	SDD-PS-1-4
Type	Power supply	Power supply with Video connection	Power supply
Input voltage	230 V AC	230 V AC	230 V AC
Output voltage	12 V DC stabilized, max. 2 A	12 V DC stabilized, max. 4 A	12 V DC stabilized, max. 5 A
Classification	IP-66	Screw terminal	Plug with 1 to 4 distributer
Housing material	Weather-proof housing (IP-66)	Desktop version	Desktop version with cable both ends
Dimensions W x H x D (mm)	110 x 90 x 210	430 x 45 x 130	65 x 40 x 120
Specials	2 x PG Connectors	19" possible, 9 x BNC output	–

Power adapters

Technical specifications

Part number	VCA-24V8A-SYS	VCA-24VAC
Type	Power supply	Power supply
Input voltage	230 V AC	230 V AC
Output voltage	24 V AC, 8 A	24 V AC , max. 0.4 A
Output	Screw terminal	open cable ends
Housing material	Metal rack mount 19"	Plug housing, plastic
Dimensions W x H x D (mm)	437 x 44 x 170	50 x 80 x 70

Notes

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Your local distributor: